



**Laboratory Report Number:** L12020399

Mark Lyon Environmental Waste Solutions 2440 Louisiana Blvd Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact: Stephanie Mossburg – Team Chemist/Data Specialist (740) 373-4071 Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on March 05 2012

David E. Vandenberg

David Vandenberg – Managing Director

State of Origin: NM

Accrediting Authority: N/A ID:N/A

QAPP: DOD Ver 4.1





Microbac Laboratories \* Ohio Valley Division 158 Starlite Drive, Marietta, OH 45750 \* T: (740) 373-4071 F: (740) 373-4835 \* www.microbac.com



Discrepancy

**Lab Report #:** L12020399 **Lab Project #:** 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Resolution

# Record of Sample Receipt and Inspection

#### Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

| Coolers  |                 |             |      |                                    |
|----------|-----------------|-------------|------|------------------------------------|
| Cooler # | Temperature Gun | Temperature | COC# | Airbill #                          |
| 0016407  | G               | 0.0         |      | 1015923851960004575000795761726710 |
| 0010314  |                 | 0.0         |      | 1015923851960004575000795761726709 |
| 0012240  | G               | 0.0         |      | 1002239551960004575000874824307392 |

| Inspec | tion Checklist   |        |
|--------|--|--------|
| #      | Question   | Result |
| 1      | Were shipping coolers sealed?                              | Yes    |
| 2      | Were custody seals intact?                                 | Yes    |
| 3      | Were cooler temperatures in range of 0-6?                  | Yes    |
| 4      | Was ice present?   | Yes    |
| 5      | Were COC's received/information complete/signed and dated? | Yes    |
| 6      | Were sample containers intact and match COC?               | Yes    |
| 7      | Were sample labels intact and match COC?                   | Yes    |
| 8      | Were the correct containers and volumes received?          | Yes    |
| 9      | Were samples received within EPA hold times?               | Yes    |
| 10     | Were correct perservatives used? (water only)              | Yes    |
| 11     | Were pH ranges acceptable? (voa's excluded)                | Yes    |
| 12     | Were VOA samples free of headspace (less than 6mm)?        | NA     |



**Lab Report** #: L12020399 **Lab Project** #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

| mples Received |               |                  |                  |
|----------------|---------------|------------------|------------------|
| Client ID      | Laboratory ID | Date Collected   | Date Received    |
| HTA19-0212-1   | L12020399-01  | 02/13/2012 10:40 | 02/14/2012 12:27 |
| HTA19-0212-1   | L12020399-02  | 02/13/2012 10:40 | 02/14/2012 12:27 |
| HTA19-0212-2   | L12020399-03  | 02/13/2012 10:40 | 02/14/2012 12:27 |
| HTA19-0212-2   | L12020399-04  | 02/13/2012 10:40 | 02/14/2012 12:27 |
| HTA16D-0212-1  | L12020399-05  | 02/13/2012 12:00 | 02/14/2012 12:27 |
| HTA16D-0212-1  | L12020399-06  | 02/13/2012 12:00 | 02/14/2012 12:27 |
| HTA16-0212-1   | L12020399-07  | 02/13/2012 13:05 | 02/14/2012 12:27 |
| HTA16-0212-1   | L12020399-08  | 02/13/2012 13:05 | 02/14/2012 12:27 |
| HTA17-0212-1   | L12020399-09  | 02/13/2012 14:20 | 02/14/2012 12:27 |
| HTA17-0212-1   | L12020399-10  | 02/13/2012 14:20 | 02/14/2012 12:27 |
| HTA15-0212-1   | L12020399-11  | 02/13/2012 15:35 | 02/14/2012 12:27 |
| HTA15-0212-1   | L12020399-12  | 02/13/2012 15:35 | 02/14/2012 12:27 |



Login Number: L12020399

**Department**: General Chromatography

Analyst: John W. Richards Jr.

#### **METHOD**

Analysis SW-846 6850

#### **HOLDING TIMES**

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

#### **PREPARATION**

Sample preparation proceeded normally.

#### **CALIBRATION**

**Initial Calibration:** For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

#### **BATCH QA/QC**

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

#### **SAMPLES**

Samples: Samples 01, 03, 05, 07, 09 and 11 were analyzed at a dilution to be within calibration range.

Internal Standards: All acceptance criteria were met.

#### **Manual Integration Reason Codes**

**Reason #1: Data System Fails to Select Correct Peak** In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and

benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

**Reason #4: System Establishes Incorrect Baseline** There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

**Reason #5: Miscellaneous** Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor

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will be required.

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Narrative ID: 42832

Approved By: Mike Cochran

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Login Number: L12020399 Department: Conventionals Analyst: Dorothy Payne

#### **METHOD**

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

**HOLDING TIMES** 

Sample Analysis: All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met. **Duplicates:** All acceptance criteria were met.

**SAMPLES** 

**Samples:** All acceptance criteria were met.

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Narrative ID: 42406

Iranna / bsson

Approved By: Deanna Hesson



Login Number: L12020399

**Department**: General Chromatography

Analyst: Eric Lawson

#### **METHOD**

**Analysis SW-846 8330** 

### **HOLDING TIMES**

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

#### **PREPARATION**

Sample preparation proceeded normally.

#### **CALIBRATION**

**Initial Calibration:** For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

**Alternate Source Standards:** The percent difference was out of range for the following analytes: Tetryl. Please see the applicable QC report for a detailed presentation of the failures.

**Continuing Calibration and Tune:** Recoveries out of range were observed for the following analytes: Tetryl. Please see the applicable QC report for a detailed presentation of the failures.

#### **BATCH QA/QC**

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

**Matrix Spikes:** There were no MS/MSD results associated with this sample delivery group, due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac recommends site specific MS/MSD samples to avoid possible data qualification.

#### **SAMPLES**

**Samples:** Sample 09 was analyzed at a dilution to be within calibration range. All positive hits were confirmed by second column analysis.

Surrogates: All acceptance criteria were met.

### **Manual Integration Reason Codes**

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and

benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the

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system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

**Reason #5: Miscellaneous** Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

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Narrative ID: 42802

Approved By: Mike Cochran

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Login Number: L12020399 Department: Metals Analyst: Kim Rhodes

**METHOD** 

Preparation: SW-846 3005 Analysis: SW-846 6010 HOLDING TIMES

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**CALIBRATION** 

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Serial Dilution/Post Digestion Spikes:** WG389817 - Tin was not added to the initial post digestion spike analyzed on 16-Feb-2012 at 14:54, therefore, it was reanalyzed for all analytes at 16:02.

Matrix Spikes: All acceptance criteria were met.

**SAMPLES** 

**Samples:** WG389817 - Client samples 02, 04, 06, 08, 10, and 12 were reanalyzed at dilutions in order to obtain results for calcium and magnesium within the calibration range.

Narrative ID: 42299

Sheri L. Parguet

Approved By: Sheri Pfalzgraf

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Login Number: L12020399

**Department**: Metals **Analyst:** Erin Long

**METHOD** 

Preparation: SW-846 3015 Analysis: SW-846 6020

**HOLDING TIMES** 

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**CALIBRATION** 

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met. Interference Check Standards: All acceptance criteria were met.

**Continuing Calibration:** All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG389782 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

**SAMPLES** 

Samples: All acceptance criteria were met.

Narrative ID: 42303

Approved By: Sheri Pfalzgraf

Sheri L. Hakoud



Login Number: L12020399 Department: Metals - AA Analyst: Pierce Morris

**METHOD** 

Preparation: SW-846 7470 Analysis: SW-846 7470

HOLDING TIMES

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**CALIBRATION** 

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

 $\begin{calce} \textbf{Continuing Calibration Blank:} All acceptance criteria were met. \end{calcertainty}$ 

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

**Serial Dilution/Post Digestion Spikes:** WG389917 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

**SAMPLES** 

**Samples:** All acceptance criteria were met.

Narrative ID: 42441

Approved By: Sheri Pfalzgraf

Sheri L. Habarak



Login Number: L12020399

**Department**: General Chromatography

Analyst: Jeremy Kinney

**METHOD** 

Analysis SW-846 9056/300.0

**HOLDING TIMES** 

**Sample Preparation:** All holding times were met. **Sample Analysis:** All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**CALIBRATION** 

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

**SAMPLES** 

**Samples:** All acceptance criteria were met. **Surrogates:** All acceptance criteria were met.

**Manual Integration Reason Codes** 

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and

benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

**Reason #4: System Establishes Incorrect Baseline** There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

**Reason #5: Miscellaneous** Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

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Narrative ID: 42353

Approved By: Jeremy Kinney

gakin

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Generated at Feb 17, 2012 14:24



Login Number: L12020399 Department: Conventionals Analyst: Deanna Hesson

**METHOD** 

Analysis EPA 310.2 (Alkalinity)

**HOLDING TIMES** 

Sample Analysis: All holding times were met.

**PREPARATION** 

Sample preparation proceeded normally.

**BATCH QA/QC** 

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met. **Duplicates:** All acceptance criteria were met.

**SAMPLES** 

**Samples:** All acceptance criteria were met.

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Narrative ID: 42405

Iranna / bsson

Approved By: Deanna Hesson



Login Number: L12020399 Department: Conventionals Analyst: Jeremy Kinney

#### **METHOD**

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

#### **HOLDING TIMES**

**Sample Analysis:** Nitrate is reported as the difference of nitrate-nitrite (28 day hold) and nitrite (48 hour hold). Both analysis were analyzed within the appropriate hold time. The nitrate hold time is within compliance.

#### **PREPARATION**

Sample preparation proceeded normally.

### **BATCH QA/QC**

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met. **Duplicates:** All acceptance criteria were met.

**SAMPLES** 

Samples: All acceptance criteria were met.

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Narrative ID: 42407

Imma/bsson

Approved By: Deanna Hesson



## Certificate of Analysis

Sample #: L12020399-01 PrePrep Method: N/A Instrument: LCMS1 Client ID: HTA19-0212-1 Prep Method: 6850 Prep Date: 02/23/2012 13:15 **Analytical Method:** 6850 Cal Date: 01/24/2012 17:25 Matrix: Water Workgroup #: WG390462 Analyst: JWR Run Date: 02/24/2012 16:19 Collect Date: 02/13/2012 10:40 Dilution: 5000 File ID: 1LM.LM15417 Sample Tag: DL01 Units: ug/L Analyte CAS# Result Qual LOQ LOD Perchlorate 14797-73-0 8900 1000 500

 Sample #:
 L12020399-01
 PrePrep Method:
 N/A
 Instrument:
 HPLC5

 Client ID:
 HTA19-0212-1
 Prep Method:
 METHOD
 Prep Date:
 02/15/2012 08:20

 Matrix:
 Water
 Analytical Method:
 8330B
 Cal Date:
 02/10/2011 16:32

 Workgroup #:
 WG389703
 Analyst:
 ECL
 Run Date:
 02/16/2012 17:47

 Collect Date:
 02/13/2012 10:40
 Dilution:
 1
 File ID:
 5L006486.F

Sample Tag: 01 Units: ug/L

| Sample ray. Or             | Omis. ug/L |        |      |      |       |
|----------------------------|------------|--------|------|------|-------|
| Analyte                    | CAS#       | Result | Qual | LOQ  | LOD   |
| 1,3,5-Trinitrobenzene      | 99-35-4    |        | U    | 1.11 | 0.278 |
| 1,3-Dinitrobenzene         | 99-65-0    |        | U    | 1.11 | 0.278 |
| 2,4,6-Trinitrotoluene      | 118-96-7   |        | U    | 1.11 | 0.278 |
| 2,4-Dinitrotoluene         | 121-14-2   |        | U    | 1.11 | 0.278 |
| 2,6-Dinitrotoluene         | 606-20-2   |        | U    | 1.11 | 0.278 |
| 2-Amino-4,6-dinitrotoluene | 35572-78-2 |        | U    | 1.11 | 0.278 |
| 2-Nitrotoluene             | 88-72-2    |        | U    | 1.11 | 0.278 |
| 3-Nitrotoluene             | 99-08-1    |        | U    | 1.11 | 0.278 |
| 4-Nitrotoluene             | 99-99-0    |        | U    | 1.11 | 0.278 |
| 4-Amino-2,6-dinitrotoluene | 19406-51-0 |        | U    | 1.11 | 0.278 |
| HMX                        | 2691-41-0  |        | U    | 1.11 | 0.278 |
| Nitrobenzene               | 98-95-3    |        | U    | 1.11 | 0.278 |
| RDX                        | 121-82-4   |        | U    | 1.11 | 0.278 |
| Tetryl                     | 479-45-8   |        | U    | 1.11 | 0.278 |
|                            |            |        |      |      |       |

|                 | Surrogate                                | Recovery           | Lower Limit  | Upper Limit | Q |
|-----------------|--|--------------------|--------------|-------------|---|
| 1,2-Dinitrobenz | zene                                     | 83.9               | 50           | 150         |   |
| U               | Analyte was not detected. The concentrat | ion is below the r | eported LOD. |             |   |

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#### Certificate of Analysis

Sample #: L12020399-01 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA19-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Matrix: Water Analytical Method: 6010B Cal Date: 02/16/2012 08:38 Workgroup #: WG389817 Analyst: KHR Run Date: 02/16/2012 14:38 Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: T2.021612.143812 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Iron, Total 7439-89-6 0.0500 U 0.100 7439-96-5 U 0.0100 0.00500 Manganese, Total U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-01 PrePrep Method: N/A Instrument: IC1 Client ID: HTA19-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Matrix: Water Workgroup #: WG389618 Analyst: JBK Run Date: 02/15/2012 21:17 Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: 110215122117.45 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Fluoride 16984-48-8 3.63 0.200 0.100

Sample #: L12020399-01 PrePrep Method: N/A Instrument: IC1 Client ID: HTA19-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Run Date: 02/16/2012 12:31 Analyst: JBK Collect Date: 02/13/2012 10:40 Dilution: 5 File ID: 110216121231.75 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD 16887-00-6 Chloride 48.3 1.00 0.500 Sulfate 14808-79-8 168 5.00 2.50

Sample #: L12020399-01 PrePrep Method: N/A Instrument: ORION-4STAR Client ID: HTA19-0212-1 Prep Method: 9040C Prep Date: N/A Matrix: Water Analytical Method: 9040C Cal Date: Workgroup #: WG389585 Analyst: DLP Run Date: 02/14/2012 17:42 Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: OS12021515240401 Sample Tag: Units: UNITS Analyte CAS# Result Qual LOQ LOD 7.48 0.000 0.000 Corrosivity pH 10-29-7

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### Certificate of Analysis

Sample #: L12020399-01 PrePrep Method: N/A Instrument: SMARTCHEM

 Client ID:
 HTA19-0212-1
 Prep Method:
 310.2
 Prep Date:
 N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 02/16/2012 10:26

 Workgroup #:
 WG389747
 Analyst:
 DIH
 Run Date:
 02/16/2012 10:39

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD
Alkalinity, Bicarbonate (as CaCO3) 197 20.0 10.0

Sample #: L12020399-01 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA19-0212-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 02/16/2012 10:26

 Workgroup #:
 WG389747
 Analyst:
 DIH
 Run Date:
 02/16/2012 10:39

 Collect Date:
 02/13/2012 10:40
 Dilution:
 1
 File ID:
 SC120216003.030

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD

Alkalinity, Carbonate (as CaCO3)

U 20.0 10.0

U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-01 PrePrep Method: N/A Instrument: SMARTCHEM

 Client ID:
 HTA19-0212-1
 Prep Method:
 310.2
 Prep Date:
 N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 02/16/2012 10:26

 Workgroup #:
 WG389747
 Analyst:
 DIH
 Run Date:
 02/16/2012 10:39

 Collect Date:
 02/13/2012 10:40
 Dilution:
 1
 File ID:
 SC120216003.030

Sample Tag: 01 Units: mg/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 Alkalinity, Total (as CaCO3)
 197
 20.0
 10.0

Sample #: L12020399-01 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA19-0212-1 Prep Method: 353.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 353.2
 Cal Date:
 02/14/2012 11:13

 Workgroup #:
 WG389640
 Analyst:
 JBK
 Run Date:
 02/15/2012 11:13

 Collect Date:
 02/13/2012 10:40
 Dilution:
 1
 File ID:
 SC12021615505601

Sample Tag: Units: mg/L

Analyte CAS # Result Qual LOQ LOD

Nitrate-Nitrite (as N) U 0.0500 0.0250

U Analyte was not detected. The concentration is below the reported LOD.

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### Certificate of Analysis

Sample #: L12020399-02 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA19-0212-1 Prep Date: 02/16/2012 07:08 Prep Method: 3005A Cal Date: 02/16/2012 08:38 Matrix: Water Analytical Method: 6010B Workgroup #: WG389817 Analyst: KHR Run Date: 02/16/2012 14:41 Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: T2.021612.144128 Sample Tag: 01 Units: mg/L

|                  | 9  |                      |        |      |         |         |
|------------------|--|----------------------|--------|------|---------|---------|
|                  | Analyte  | CAS#                 | Result | Qual | LOQ     | LOD     |
| Aluminum, Diss   | solved   | 7429-90-5            |        | U    | 0.100   | 0.0500  |
| Beryllium, Disso | olved  | 7440-41-7            |        | U    | 0.00200 | 0.00100 |
| Iron, Dissolved  |  | 7439-89-6            |        | U    | 0.100   | 0.0500  |
| Manganese, Di    | ssolved  | 7439-96-5            |        | U    | 0.0100  | 0.00500 |
| Potassium, Dis   | solved   | 7440-09-7            | 1.30   |      | 1.00    | 0.500   |
| Sodium, Dissol   | ved  | 7440-23-5            | 61.6   |      | 0.500   | 0.250   |
| Tin, Dissolved   |  | 7440-31-5            |        | U    | 0.500   | 0.250   |
| Vanadium, Diss   | solved   | 7440-62-2            |        | U    | 0.0100  | 0.00500 |
| Zinc, Dissolved  |  | 7440-66-6            |        | U    | 0.0200  | 0.0100  |
| U                | Analyte was not detected. The concentration is | s below the reported | LOD.   |      |         |         |

Sample #: L12020399-02 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA19-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Matrix: Water Analytical Method: 6010B Cal Date: 02/17/2012 09:11 Workgroup #: WG389817 Analyst: KHR Run Date: 02/17/2012 09:34 Collect Date: 02/13/2012 10:40 Dilution: 10 File ID: T2.021712.093434 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Calcium, Dissolved 7440-70-2 113 2.00 1.00 Magnesium, Dissolved 27.7 5.00 2.50 7439-95-4

| Sample #:          | L12020399-02     | PrePrep Method:    | N/A                                     |        | Instrument: | ELAN-ICP      |          |
|--------------------|------------------|--------------------|---|--------|-------------|---------------|----------|
| Client ID:         | HTA19-0212-1     | Prep Method:       | 3015                                    |        | Prep Date:  | 02/16/2012 10 | 0:00     |
| Matrix:            | Water            | Analytical Method: | Method: 6020 Cal Date: 02/16/2012 16:04 |        |             |               | 6:04     |
| Workgroup #:       | WG389782         | Analyst:           | Analyst: EDL Run Date: 02/16/2012 20:50 |        |             |               | ):50     |
| Collect Date:      | 02/13/2012 10:40 | Dilution:          | Dilution: 1 File ID: EL.021612.205033   |        |             |               | 5033     |
| Sample Tag:        | 01               | Units:             | mg/L                                    |        |             |               |          |
|                    | Analyte          | CAS                | #                                       | Result | Qual        | LOQ           | LOD      |
| Antimony, Dissolve | d                | 7440-3             | 6-0                                     |        | U           | 0.00100       | 0.000500 |
| Arsenic, Dissolved |                  | 7440-3             | 8-2                                     |        | U           | 0.00100       | 0.000500 |
| Barium, Dissolved  |                  | 7440-3             | 9-3                                     | 0.0341 |             | 0.00300       | 0.00150  |
| Cadmium, Dissolve  | ed               | 7440-4             | 3-9                                     |        | U           | 0.000600      | 0.000300 |

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# Certificate of Analysis

|               | Analyte                                | CAS#                          | Result     | Qual | LOQ      | LOD      |
|---------------|--|-------------------------------|------------|------|----------|----------|
| Chromium, I   | Dissolved                              | 7440-47-3                     |            | U    | 0.00200  | 0.00100  |
| Cobalt, Diss  | olved                                  | 7440-48-4                     | 0.000847   | J    | 0.00100  | 0.000500 |
| Copper, Diss  | solved                                 | 7440-50-8                     |            | U    | 0.00200  | 0.00100  |
| Lead, Disso   | lved                                   | 7439-92-1                     |            | U    | 0.00100  | 0.000500 |
| Nickel, Disse | olved                                  | 7440-02-0                     | 0.00408    |      | 0.00400  | 0.00200  |
| Selenium, D   | issolved                               | 7782-49-2                     | 0.00413    |      | 0.00100  | 0.000500 |
| Silver, Disso | lved                                   | 7440-22-4                     |            | U    | 0.00100  | 0.000500 |
| Thallium, Di  | ssolved                                | 7440-28-0                     |            | U    | 0.000200 | 0.000100 |
| J             | Estimated value ; the analyte concentr | ation was less than the LOC   | <b>Q</b> . |      |          |          |
| U             | Analyte was not detected. The concent  | tration is below the reported | LOD.       |      |          |          |

| Sample           | #: L12020399-02           | PrePrep Method:                  | N/A                                     | Instrument: HYDRA                       |              |      |  |  |
|------------------|---------------------------|----------------------------------|---|---|--------------|------|--|--|
| Client II        | <b>D:</b> HTA19-0212-1    | Prep Method:                     | 7470A                                   | 470A <b>Prep Date:</b> 02/16/2012 07:13 |              |      |  |  |
| Matri            | ix: Water                 | Analytical Method:               | 7470A <b>Cal Date:</b> 02/17/2012 13:00 |   |              |      |  |  |
| Workgroup        | #: WG389917               | Analyst:                         | PDM                                     | PDM Run Date: 02/17/2012 13:19          |              |      |  |  |
| Collect Dat      | te: 02/13/2012 10:40      | Dilution:                        | 1                                       | File ID:                                | HY.021712.13 | 1940 |  |  |
| Sample Ta        | ng: 01                    | Units:                           | mg/L                                    |   |              |      |  |  |
|                  | Analyte                   | CAS                              | # Res                                   | sult Qual                               | LOQ          | LOD  |  |  |
| Mercury, Dissolv | ved .                     | 7439-97                          | 7439-97-6 U 0.000200 0.000100           |   |              |      |  |  |
| U                | Analyte was not detected. | The concentration is below the r | eported LOD.                            |   |              |      |  |  |

| Sample #:     | L12020399-03     | PrePrep Method:    | N/A      | Instrument:                  | LCMS1         |      |  |
|---------------|------------------|--------------------|----------|------------------------------|---------------|------|--|
| Client ID:    | HTA19-0212-2     | Prep Method:       | 6850     | Prep Date:                   | 02/23/2012 13 | 3:15 |  |
| Matrix:       | Water            | Analytical Method: | 6850     | Cal Date:                    | 01/24/2012 17 | 7:25 |  |
| Workgroup #:  | WG390462         | Analyst:           | JWR      | R Run Date: 02/24/2012 16:38 |               |      |  |
| Collect Date: | 02/13/2012 10:40 | Dilution:          | 5000     | File ID: 1LM.LM15418         |               |      |  |
| Sample Tag:   | DL01             | Units:             | ug/L     |                              |               |      |  |
|               | Analyte          | CAS                | # Result | Qual                         | LOQ           | LOD  |  |
| Perchlorate   |                  | 14797-7            | 3-0 8950 |                              | 1000          | 500  |  |

| Sample #:           | L12020399-03     | PrePrep Method:    | N/A    |       | Instrument: | HPLC5         |       |
|---------------------|------------------|--------------------|--------|-------|-------------|---------------|-------|
| Client ID:          | HTA19-0212-2     | Prep Method:       | METHOD |       | Prep Date:  | 02/15/2012 08 | 3:20  |
| Matrix:             | Water            | Analytical Method: | 8330B  |       | Cal Date:   | 02/10/2011 16 | :32   |
| Workgroup #:        | WG389703         | Analyst:           | ECL    |       | Run Date:   | 02/16/2012 18 | 3:26  |
| Collect Date:       | 02/13/2012 10:40 | Dilution:          | 1      |       | File ID:    | 5L006487.F    |       |
| Sample Tag:         | 01               | Units:             | ug/L   |       |             |               |       |
|                     | Analyte          | CAS                | # Ro   | esult | Qual        | LOQ           | LOD   |
| 1,3,5-Trinitrobenze | ne               | 99-35              | -4     |       | U           | 1.02          | 0.255 |

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1,2-Dinitrobenzene

Sample Tag: 01

U

Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

### Certificate of Analysis

| Analyte                    | CAS      | #     | Result | t     | Qu    | al | LOQ  | LOD   |
|----------------------------|----------|-------|--------|-------|-------|----|------|-------|
| 1,3-Dinitrobenzene         | 99-65    | -0    |        |       | U     |    | 1.02 | 0.255 |
| 2,4,6-Trinitrotoluene      | 118-96   | i-7   |        |       | U     |    | 1.02 | 0.255 |
| 2,4-Dinitrotoluene         | 121-14   | l-2   |        |       | U     |    | 1.02 | 0.255 |
| 2,6-Dinitrotoluene         | 606-20   | )-2   |        |       | U     |    | 1.02 | 0.255 |
| 2-Amino-4,6-dinitrotoluene | 35572-7  | '8-2  |        |       | U     |    | 1.02 | 0.255 |
| 2-Nitrotoluene             | 88-72    | -2    |        |       | U     |    | 1.02 | 0.255 |
| 3-Nitrotoluene             | 99-08    | -1    |        |       | U     |    | 1.02 | 0.255 |
| 4-Nitrotoluene             | 99-99    | -0    |        |       | U     |    | 1.02 | 0.255 |
| 4-Amino-2,6-dinitrotoluene | 19406-5  | 51-0  |        |       | U     |    | 1.02 | 0.255 |
| HMX                        | 2691-4   | 1-0   |        |       | U     |    | 1.02 | 0.255 |
| Nitrobenzene               | 98-95    | -3    |        |       | U     |    | 1.02 | 0.255 |
| RDX                        | 121-82   | 2-4   |        |       | U     |    | 1.02 | 0.255 |
| Tetryl                     | 479-45   | 5-8   |        |       | U     |    | 1.02 | 0.255 |
| Surrogate                  | Recovery | Lower | Limit  | Upper | Limit | Q  |      |       |

| Sample #:     | L12020399-03     | PrePrep Method:    | N/A   | Instrument: ICP-THERMO2            |
|---------------|------------------|--------------------|-------|------------------------------------|
| Client ID:    | HTA19-0212-2     | Prep Method:       | 3005A | <b>Prep Date:</b> 02/16/2012 07:08 |
| Matrix:       | Water            | Analytical Method: | 6010B | <b>Cal Date:</b> 02/16/2012 08:38  |
| Workgroup #:  | WG389817         | Analyst:           | KHR   | Run Date: 02/16/2012 14:44         |
| Collect Date: | 02/13/2012 10:40 | Dilution:          | 1     | File ID: T2.021612.144446          |

50

150

97.0

Analyte was not detected. The concentration is below the reported LOD.

Analyte CAS# Result Qual LOQ LOD Iron, Total 7439-89-6 U 0.100 0.0500 Manganese, Total U 0.0100 0.00500 7439-96-5

Units: mg/L

U Analyte was not detected. The concentration is below the reported LOD.

| Sample #:     | L12020399-03     | PrePrep Method:    | N/A   |                          | Instrument:                | IC1           |       |  |
|---------------|------------------|--------------------|-------|--------------------------|----------------------------|---------------|-------|--|
| Client ID:    | HTA19-0212-2     | Prep Method:       | 300.0 |                          | Prep Date:                 | 02/15/2012 18 | 3:06  |  |
| Matrix:       | Water            | Analytical Method: | 300.0 |                          | Cal Date:                  | 02/10/2012 10 | 0:32  |  |
| Workgroup #:  | WG389618         | Analyst:           | JBK   |                          | Run Date: 02/15/2012 21:35 |               |       |  |
| Collect Date: | 02/13/2012 10:40 | Dilution:          | 1     | File ID: 110215122135.46 |                            |               |       |  |
| Sample Tag:   | 01               | Units:             | mg/L  |                          |                            |               |       |  |
|               | Analyte          | CAS                | #     | Result                   | Qual                       | LOQ           | LOD   |  |
| Fluoride      |                  | 16984-4            | 8-8   | 4.05                     |                            | 0.200         | 0.100 |  |

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Sulfate

Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

5.00

2.50

# Certificate of Analysis

| Sample #:     | L12020399-03     | PrePrep Method:    | N/A   |                          | Instrument: | IC1           |       |
|---------------|------------------|--------------------|-------|--------------------------|-------------|---------------|-------|
| Client ID:    | HTA19-0212-2     | Prep Method:       | 300.0 |                          | Prep Date:  | 02/15/2012 18 | 3:06  |
| Matrix:       | Water            | Analytical Method: | 300.0 |                          | Cal Date:   | 02/10/2012 10 | ):32  |
| Workgroup #:  | WG389618         | Analyst:           | JBK   |                          | Run Date:   | 02/16/2012 12 | 2:48  |
| Collect Date: | 02/13/2012 10:40 | Dilution:          | 5     | File ID: 110216121248.76 |             |               |       |
| Sample Tag:   | DL01             | Units:             | mg/L  |                          |             |               |       |
|               | Analyte          | CAS                | #     | Result                   | Qual        | LOQ           | LOD   |
| Chloride      |                  | 16887-0            | 0-6   | 46.7                     |             | 1.00          | 0.500 |

14808-79-8

168

| Sample #:      | L12020399-03     | PrePrep Method:    | N/A   |                            | Instrument: | ORION-4STA  | R      |
|----------------|------------------|--------------------|-------|----------------------------|-------------|-------------|--------|
| Client ID:     | HTA19-0212-2     | Prep Method:       | 9040C |                            | Prep Date:  | N/A         |        |
| Matrix:        | Water            | Analytical Method: | 9040C |                            | Cal Date:   |             |        |
| Workgroup #:   | WG389585         | Analyst:           | DLP   | Run Date: 02/14/2012 17:45 |             |             |        |
| Collect Date:  | 02/13/2012 10:40 | Dilution:          | 1     |                            | File ID:    | OS120215152 | 241301 |
| Sample Tag:    |                  | Units:             | UNITS |                            |             |             |        |
|                | Analyte          | CAS                | #     | Result                     | Qual        | LOQ         | LOD    |
| Corrosivity pH |                  | 10-29-             | .7    | 7.44                       |             | 0.000       | 0.000  |

| Sample #:             | L12020399-03     | PrePrep Method:    | N/A   |                          | Instrument: | SMARTCHEM     | 1    |
|-----------------------|------------------|--------------------|-------|--------------------------|-------------|---------------|------|
| Client ID:            | HTA19-0212-2     | Prep Method:       | 310.2 |                          | Prep Date:  | N/A           |      |
| Matrix:               | Water            | Analytical Method: | 310.2 |                          | Cal Date:   | 02/16/2012 10 | ):26 |
| Workgroup #:          | WG389747         | Analyst:           | DIH   |                          | Run Date:   | 02/16/2012 10 | ):41 |
| Collect Date:         | 02/13/2012 10:40 | Dilution:          | 1     | File ID: SC120216003.033 |             |               |      |
| Sample Tag:           | 01               | Units:             | mg/L  |                          |             |               |      |
|                       | Analyte          | CAS                | #     | Result                   | Qual        | LOQ           | LOD  |
| Alkalinity, Bicarbona | ate (as CaCO3)   |                    |       | 194                      |             | 20.0          | 10.0 |

| Sample #:             | L12020399-03          | PrePrep Method:    | N/A                             |        | Instrument: | SMARTCHEN     | И                |  |  |
|-----------------------|-----------------------|--------------------|---------------------------------|--------|-------------|---------------|------------------|--|--|
| Client ID:            | HTA19-0212-2          | Prep Method:       | 310.2                           |        | Prep Date:  | : N/A         |                  |  |  |
| Matrix:               | Water                 | Analytical Method: | alytical Method: 310.2 Cal Date |        |             |               | 02/16/2012 10:26 |  |  |
| Workgroup #:          | Workgroup #: WG389747 |                    |                                 |        | Run Date:   | 02/16/2012 10 | 0:41             |  |  |
| Collect Date:         | 02/13/2012 10:40      | Dilution:          | 1                               |        | File ID:    | SC120216003   | 3.033            |  |  |
| Sample Tag:           | 01                    | Units:             | mg/L                            |        |             |               |                  |  |  |
|                       | Analyte               | CAS                | #                               | Result | Qual        | LOQ           | LOD              |  |  |
| Alkalinity, Total (as | CaCO3)                |                    |                                 | 194    |             | 20.0          | 10.0             |  |  |

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### Certificate of Analysis

Sample #: L12020399-03 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA19-0212-2 Prep Method: 310.2 Prep Date: N/A

Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:41

Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: SC120216003.033

Sample Tag: 01 Units: mg/L

Analyte CAS# Result Qual LOQ LOD Alkalinity, Carbonate (as CaCO3) 20.0 10.0

Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-03 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA19-0212-2 Prep Method: 353.2 Prep Date: N/A

Matrix: Water Analytical Method: 353.2 Cal Date: 02/14/2012 11:13 Workgroup #: WG389640 Run Date: 02/15/2012 11:13 Analyst: JBK Collect Date: 02/13/2012 10:40 Dilution: 16 File ID: SC12021615510701

Sample Tag: Units: mg/L

CAS# Result LOD Analyte Qual LOQ Nitrate-Nitrite (as N) 23.3 0.800 0.400

Sample #: L12020399-04 PrePrep Method: N/A Instrument: ICP-THERMO2 **Client ID:** HTA19-0212-2 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Matrix: Water Analytical Method: 6010B Cal Date: 02/16/2012 08:38 Workgroup #: WG389817 Analyst: KHR Run Date: 02/16/2012 14:48 Collect Date: 02/13/2012 10:40 Dilution: 1 File ID: T2.021612.144804

| Sample T         | ag: 01  | Units: mg/L          |        |      |         |         |
|------------------|---|----------------------|--------|------|---------|---------|
|                  | Analyte                                       | CAS#                 | Result | Qual | LOQ     | LOD     |
| Aluminum, Diss   | solved  | 7429-90-5            |        | U    | 0.100   | 0.0500  |
| Beryllium, Disso | olved   | 7440-41-7            |        | U    | 0.00200 | 0.00100 |
| Iron, Dissolved  |   | 7439-89-6            |        | U    | 0.100   | 0.0500  |
| Manganese, Di    | ssolved                                       | 7439-96-5            |        | U    | 0.0100  | 0.00500 |
| Potassium, Dis   | solved  | 7440-09-7            | 1.32   |      | 1.00    | 0.500   |
| Sodium, Dissol   | ved   | 7440-23-5            | 61.2   |      | 0.500   | 0.250   |
| Tin, Dissolved   |   | 7440-31-5            |        | U    | 0.500   | 0.250   |
| Vanadium, Diss   | solved  | 7440-62-2            |        | U    | 0.0100  | 0.00500 |
| Zinc, Dissolved  |   | 7440-66-6            |        | U    | 0.0200  | 0.0100  |
| U                | Analyte was not detected. The concentration i | s below the reported | LOD.   |      |         |         |

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Magnesium, Dissolved

Lab Report #: L12020399 Lab Project #: 3005.011 Project Name: White Sands MR Lab Contact: Stephanie Mossburg

### Certificate of Analysis

Sample #: L12020399-04 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA19-0212-2 Prep Method: 3005A Prep Date: 02/16/2012 07:08 **Analytical Method: 6010B** Cal Date: 02/17/2012 09:11 Matrix: Water Workgroup #: WG389817 Analyst: KHR Run Date: 02/17/2012 09:37 Collect Date: 02/13/2012 10:40 Dilution: 10 File ID: T2.021712.093751 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Calcium, Dissolved 7440-70-2 109 2.00 1.00 7439-95-4 26.4 5.00 2.50

| Sample #            | #: L12020399-04               | PrePrep Method: N                | I/A        | Instrument: | ELAN-ICP            |          |  |
|---------------------|-------------------------------|----------------------------------|------------|-------------|---------------------|----------|--|
| Client ID           | ): HTA19-0212-2               | Prep Method: 3                   | 015        | Prep Date:  | : 02/16/2012 10:00  |          |  |
| Matri               | x: Water                      | Analytical Method: 6             |            | •           | e: 02/16/2012 16:04 |          |  |
| Workgroup :         | #: WG389782                   | Analyst: E                       | DL         | Run Date:   | 02/16/2012 20:58    |          |  |
| Collect Date        | e: 02/13/2012 10:40           | Dilution: 1                      |            | File ID:    | EL.021612.20        | 5820     |  |
| Sample Tag          | g: 01                         | Units: m                         | ng/L       |             |                     |          |  |
|                     | Analyte                       | CAS#                             | Result     | Qual        | LOQ                 | LOD      |  |
| Antimony, Dissol    | ved                           | 7440-36-0                        | )          | U           | 0.00100             | 0.000500 |  |
| Arsenic, Dissolve   | ed                            | 7440-38-2                        | 2          | U           | 0.00100             | 0.000500 |  |
| Barium, Dissolved   |                               | 7440-39-3                        | 0.0327     |             | 0.00300             | 0.00150  |  |
| Cadmium, Dissol     | lved                          | 7440-43-9                        | )          | U           | 0.000600            | 0.000300 |  |
| Chromium, Disso     | olved                         | 7440-47-3                        | 0.00119    | J           | 0.00200             | 0.00100  |  |
| Cobalt, Dissolved   | d                             | 7440-48-4                        | 0.000868   | J           | 0.00100             | 0.000500 |  |
| Copper, Dissolve    | ed                            | 7440-50-8                        | 3          | U           | 0.00200             | 0.00100  |  |
| Lead, Dissolved     |                               | 7439-92-2                        | L          | U           | 0.00100             | 0.000500 |  |
| Nickel, Dissolved   | 1                             | 7440-02-0                        | 0.00373    | J           | 0.00400             | 0.00200  |  |
| Selenium, Dissolved |                               | 7782-49-2                        | 0.00494    |             | 0.00100             | 0.000500 |  |
| Silver, Dissolved   |                               | 7440-22-4                        | 1          | U           | 0.00100             | 0.000500 |  |
| Thallium, Dissolv   | ved .                         | 7440-28-0                        | )          | U           | 0.000200            | 0.000100 |  |
| J                   | Estimated value ; the analyte | concentration was less than the  | LOQ.       |             |                     |          |  |
| U                   | Analyte was not detected. Th  | e concentration is below the rep | orted LOD. |             |                     |          |  |

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#### Certificate of Analysis

Sample #: L12020399-04 PrePrep Method: N/A Instrument: HYDRA

 Client ID:
 HTA19-0212-2
 Prep Method:
 7470A
 Prep Date:
 02/16/2012 07:13

 Matrix:
 Water
 Analytical Method:
 7470A
 Cal Date:
 02/17/2012 13:00

 Workgroup #:
 WG389917
 Analyst:
 PDM
 Run Date:
 02/17/2012 13:23

 Collect Date:
 02/13/2012 10:40
 Dilution:
 1
 File ID:
 HY.021712.132314

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD

Mercury, Dissolved 7439-97-6 U 0.000200 0.000100

U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-05 PrePrep Method: N/A Instrument: LCMS1

 Client ID:
 HTA16D-0212-1
 Prep Method:
 6850
 Prep Date:
 02/23/2012 13:15

 Matrix:
 Water
 Analytical Method:
 6850
 Cal Date:
 01/24/2012 17:25

 Workgroup #:
 WG390462
 Analyst:
 JWR
 Run Date:
 02/24/2012 16:57

 Collect Date:
 02/13/2012 12:00
 Dilution:
 10000
 File ID:
 1LM.LM15419

Sample Tag: DL01 Units: ug/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 Perchlorate
 14797-73-0
 16000
 2000
 1000

Sample #: L12020399-05 PrePrep Method: N/A Instrument: HPLC4

 Client ID:
 HTA16D-0212-1
 Prep Method:
 METHOD
 Prep Date:
 02/15/2012 08:20

 Matrix:
 Water
 Analytical Method:
 8330B
 Cal Date:
 02/15/2012 19:12

 Workgroup #:
 WG389703
 Analyst:
 ECL
 Run Date:
 02/21/2012 13:32

 Collect Date:
 02/13/2012 12:00
 Dilution:
 1
 File ID:
 4L023237.F

Sample Tag: CF01 Units: ug/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 RDX
 121-82-4
 19.3
 1.06
 0.266

Surrogate Recovery Lower Limit Upper Limit Q
1,2-Dinitrobenzene 82.3 50 150

Sample #: L12020399-05 PrePrep Method: N/A Instrument: HPLC5

 Client ID:
 HTA16D-0212-1
 Prep Method:
 METHOD
 Prep Date:
 02/15/2012 08:20

 Matrix:
 Water
 Analytical Method:
 8330B
 Cal Date:
 02/10/2011 16:32

 Workgroup #:
 WG389703
 Analyst:
 ECL
 Run Date:
 02/16/2012 19:05

**Collect Date:** 02/13/2012 12:00 **Dilution:** 1 **File ID:** 5L006488.F

Sample Tag: 01 Units: ug/L

LOD Analyte CAS# Result Qual LOQ 1,3,5-Trinitrobenzene 0.266 99-35-4 U 1.06 1,3-Dinitrobenzene 99-65-0 U 1.06 0.266

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Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

# Certificate of Analysis

| Analyte                    |   | CAS #    | ŧ   | Resu      | lt       | Qu  | al | LOQ  | LOD   |
|----------------------------|---|----------|-----|-----------|----------|-----|----|------|-------|
| 2,4,6-Trinitrotoluene      |   | 118-96-  | 7   |           |          | l   |    | 1.06 | 0.266 |
| 2,4-Dinitrotoluene         |   | 121-14-  | 2   |           |          | L   | ı  | 1.06 | 0.266 |
| 2,6-Dinitrotoluene         |   | 606-20-  | 2   |           |          | l   |    | 1.06 | 0.266 |
| 2-Amino-4,6-dinitrotoluene |   | 35572-78 | 3-2 |           |          | L   |    | 1.06 | 0.266 |
| 2-Nitrotoluene             |   | 88-72-   | 2   |           |          | L   |    | 1.06 | 0.266 |
| 3-Nitrotoluene             |   | 99-08-   | 1   |           |          | L   |    | 1.06 | 0.266 |
| 4-Nitrotoluene             |   | 99-99-   | )   |           |          | L   |    | 1.06 | 0.266 |
| 4-Amino-2,6-dinitrotoluene |   | 19406-5  | L-0 |           |          | L   | ı  | 1.06 | 0.266 |
| HMX                        |   | 2691-41  | -0  |           |          | L   | 1  | 1.06 | 0.266 |
| Nitrobenzene               |   | 98-95-   | 3   |           |          | L   |    | 1.06 | 0.266 |
| RDX                        |   | 121-82-  | 4   | 19.1      |          |     |    | 1.06 | 0.266 |
| Tetryl                     |   | 479-45-  | -8  |           |          | L   |    | 1.06 | 0.266 |
| Surrogate                  | R | ecovery  | Lo  | wer Limit | Upper Li | mit | Q  |      |       |
| 1,2-Dinitrobenzene         |   | 80.0     |     | 50        | 150      |     |    |      |       |

| Sample #:  | L12020399-05     | PrePrep Method:    | N/A   |                                   | Instrument: | ICP-THERMO    | 02      |
|--|------------------|--------------------|-------|-----------------------------------|-------------|---------------|---------|
| Client ID:   | HTA16D-0212-1    | Prep Method:       | 3005A |                                   | Prep Date:  | 02/16/2012 07 | 7:08    |
| Matrix:  | Water            | Analytical Method: | 6010B |                                   | Cal Date:   | 02/16/2012 08 | 3:38    |
| Workgroup #:   | WG389817         | Analyst:           | KHR   | <b>Run Date:</b> 02/16/2012 14:51 |             |               |         |
| Collect Date:  | 02/13/2012 12:00 | Dilution:          | 1     | File ID: T2.021612.145121         |             |               |         |
| Sample Tag:  | 01               | Units:             | mg/L  |                                   |             |               |         |
|  | Analyte          | CAS                | #     | Result                            | Qual        | LOQ           | LOD     |
| Iron, Total         7439-89-6         0.350         0.100         0.0500 |                  |                    |       |                                   | 0.0500      |               |         |
| Manganese, Total   |                  | 7439-96            | ô-5   | 0.0248                            |             | 0.0100        | 0.00500 |

Analyte was not detected. The concentration is below the reported LOD.

| Sample #:     | L12020399-05     | PrePrep Method:    | N/A   |                          | Instrument: | IC1           |       |
|---------------|------------------|--------------------|-------|--------------------------|-------------|---------------|-------|
| Client ID:    | HTA16D-0212-1    | Prep Method:       | 300.0 |                          | Prep Date:  | 02/15/2012 18 | 3:06  |
| Matrix:       | Water            | Analytical Method: | 300.0 |                          | Cal Date:   | 02/10/2012 10 | 0:32  |
| Workgroup #:  | WG389618         | Analyst:           | JBK   |                          | Run Date:   | 02/15/2012 21 | 1:52  |
| Collect Date: | 02/13/2012 12:00 | Dilution:          | 1     | File ID: 110215122152.47 |             |               |       |
| Sample Tag:   | 01               | Units:             | mg/L  |                          |             |               |       |
|               | Analyte          | CAS                | #     | Result                   | Qual        | LOQ           | LOD   |
| Fluoride      |                  | 16984-4            | 8-8   | 4.59                     |             | 0.200         | 0.100 |

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### Certificate of Analysis

Sample #: L12020399-05 PrePrep Method: N/A Instrument: IC1 Client ID: HTA16D-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Analyst: JBK Run Date: 02/16/2012 13:06 Collect Date: 02/13/2012 12:00 Dilution: 5 File ID: 110216121306.77 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Chloride 16887-00-6 45.3 0.500 1.00 Sulfate 14808-79-8 167 5.00 2.50

Sample #: L12020399-05 PrePrep Method: N/A Instrument: ORION-4STAR Client ID: HTA16D-0212-1 Prep Method: 9040C Prep Date: N/A Analytical Method: 9040C Cal Date: Matrix: Water Workgroup #: WG389585 Run Date: 02/14/2012 17:46 Analyst: DLP Collect Date: 02/13/2012 12:00 Dilution: 1 File ID: OS12021515242001 Sample Tag: Units: UNITS CAS# Result LOD Analyte Qual LOQ Corrosivity pH 10-29-7 7.36 0.000 0.000

Sample #: L12020399-05 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16D-0212-1 Prep Method: 310.2 Prep Date: N/A **Analytical Method: 310.2** Matrix: Water Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:42 Collect Date: 02/13/2012 12:00 Dilution: 1 File ID: SC120216003.034 Sample Tag: 01 Units: mg/L CAS# LOO LOD Analyte Result Qual Alkalinity, Bicarbonate (as CaCO3) 219 20.0 10.0

Sample #: L12020399-05 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16D-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:42 Collect Date: 02/13/2012 12:00 Dilution: 1 File ID: SC120216003.034 Sample Tag: 01 Units: mg/L LOD Analyte CAS# Result Qual LOQ Alkalinity, Total (as CaCO3) 219 20.0 10.0

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### Certificate of Analysis

Sample #: L12020399-05 PrePrep Method: N/A Instrument: SMARTCHEM

 Client ID:
 HTA16D-0212-1
 Prep Method:
 310.2
 Prep Date:
 N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 02/16/2012 10:26

 Workgroup #:
 WG389747
 Analyst:
 DIH
 Run Date:
 02/16/2012 10:42

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD
Alkalinity, Carbonate (as CaCO3) U 20.0 10.0

U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-05 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA16D-0212-1 Prep Method: 353.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 353.2
 Cal Date:
 02/14/2012 11:13

 Workgroup #:
 WG389640
 Analyst:
 JBK
 Run Date:
 02/15/2012 11:13

 Collect Date:
 02/13/2012 12:00
 Dilution:
 16
 File ID:
 SC12021615511501

Sample Tag: Units: mg/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 Nitrate-Nitrite (as N)
 22.7
 0.800
 0.400

 Sample #:
 L12020399-06
 PrePrep Method:
 N/A
 Instrument:
 ICP-THERMO2

 Client ID:
 HTA16D-0212-1
 Prep Method:
 3005A
 Prep Date:
 02/16/2012 07:08

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 02/16/2012 08:38

 Workgroup #:
 WG389817
 Analyst:
 KHR
 Run Date:
 02/16/2012 15:07

 Collect Date:
 02/13/2012 12:00
 Dilution:
 1
 File ID:
 T2.021612.150750

| Units: mg/L  |   |  |   |   |  |  |  |  |
|--|---|--|---|---|--|--|--|--|
| CAS#   | Result  | Qual   | LOQ   | LOD   |  |  |  |  |
| 7429-90-5  |   | U  | 0.100   | 0.0500  |  |  |  |  |
| 7440-41-7  |   | U  | 0.00200   | 0.00100   |  |  |  |  |
| 7439-89-6  |   | U  | 0.100   | 0.0500  |  |  |  |  |
| 7439-96-5  |   | U  | 0.0100  | 0.00500   |  |  |  |  |
| 7440-09-7  | 1.25  |  | 1.00  | 0.500   |  |  |  |  |
| 7440-23-5  | 63.3  |  | 0.500   | 0.250   |  |  |  |  |
| 7440-31-5  |   | U  | 0.500   | 0.250   |  |  |  |  |
| 7440-62-2  |   | U  | 0.0100  | 0.00500   |  |  |  |  |
| 7440-66-6  |   | U  | 0.0200  | 0.0100  |  |  |  |  |
| U Analyte was not detected. The concentration is below the reported LOD. |   |  |   |   |  |  |  |  |
|  | CAS # 7429-90-5 7440-41-7 7439-89-6 7439-96-5 7440-09-7 7440-23-5 7440-31-5 7440-62-2 7440-66-6 | CAS # Result 7429-90-5 7440-41-7 7439-89-6 7439-96-5 7440-09-7 1.25 7440-23-5 63.3 7440-31-5 7440-62-2 7440-66-6 | CAS #         Result         Qual           7429-90-5         U           7440-41-7         U           7439-89-6         U           7440-09-7         1.25           7440-23-5         63.3           7440-31-5         U           7440-66-6         U | CAS #         Result         Qual         LOQ           7429-90-5         U         0.100           7440-41-7         U         0.00200           7439-89-6         U         0.100           7439-96-5         U         0.0100           7440-09-7         1.25         1.00           7440-23-5         63.3         0.500           7440-31-5         U         0.500           7440-62-2         U         0.0100           7440-66-6         U         0.0200 |  |  |  |  |

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Magnesium, Dissolved

Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

5.00

2.50

#### Certificate of Analysis

Sample #: L12020399-06 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA16D-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Matrix: Water Analytical Method: 6010B Cal Date: 02/17/2012 09:11 Workgroup #: WG389817 Analyst: KHR Run Date: 02/17/2012 09:41 Collect Date: 02/13/2012 12:00 Dilution: 10 File ID: T2.021712.094110 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Calcium, Dissolved 7440-70-2 110 2.00 1.00

7439-95-4

27.1

Sample #: L12020399-06 PrePrep Method: N/A Instrument: ELAN-ICP Client ID: HTA16D-0212-1 Prep Method: 3015 Prep Date: 02/16/2012 10:00 Analytical Method: 6020 Cal Date: 02/16/2012 16:04 Matrix: Water Workgroup #: WG389782 Run Date: 02/16/2012 21:06 Analyst: EDL Collect Date: 02/13/2012 12:00 Dilution: 1 File ID: EL.021612.210607 Sample Tag: 01 Units: mg/L Result Qual LOD Analyte CAS# LOQ Antimony, Dissolved 7440-36-0 U 0.00100 0.000500 Arsenic, Dissolved 7440-38-2 U 0.00100 0.000500 7440-39-3 0.0358 0.00300 Barium, Dissolved 0.00150 Cadmium, Dissolved 7440-43-9 U 0.000600 0.000300 Chromium, Dissolved 7440-47-3 0.00118 J 0.00200 0.00100 Cobalt, Dissolved 7440-48-4 0.00194 0.00100 0.000500 Copper, Dissolved 7440-50-8 U 0.00200 0.00100 Lead, Dissolved 7439-92-1 U 0.00100 0.000500 Nickel, Dissolved 7440-02-0 0.00411 0.00400 0.00200 Selenium, Dissolved 7782-49-2 0.00281 0.00100 0.000500 Silver, Dissolved 7440-22-4 U 0.00100 0.000500 Thallium, Dissolved 7440-28-0 U 0.000200 0.000100 J Estimated value; the analyte concentration was less than the LOQ. U Analyte was not detected. The concentration is below the reported LOD.

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### Certificate of Analysis

Sample #: L12020399-06 PrePrep Method: N/A Instrument: HYDRA

 Client ID:
 HTA16D-0212-1
 Prep Method:
 7470A
 Prep Date:
 02/16/2012 07:13

 Matrix:
 Water
 Analytical Method:
 7470A
 Cal Date:
 02/17/2012 13:00

 Workgroup #:
 WG389917
 Analyst:
 PDM
 Run Date:
 02/17/2012 13:24

 Collect Date:
 02/13/2012 12:00
 Dilution:
 1
 File ID:
 HY.021712.132456

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD

Mercury, Dissolved 7439-97-6 U 0.000200 0.000100

U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-07 PrePrep Method: N/A Instrument: LCMS1

 Client ID:
 HTA16-0212-1
 Prep Method:
 6850
 Prep Date:
 02/23/2012 13:15

 Matrix:
 Water
 Analytical Method:
 6850
 Cal Date:
 01/24/2012 17:25

 Workgroup #:
 WG390462
 Analyst:
 JWR
 Run Date:
 02/24/2012 17:16

 Collect Date:
 02/13/2012 13:05
 Dilution:
 10000
 File ID:
 1LM.LM15420

Sample Tag: DL01 Units: ug/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 Perchlorate
 14797-73-0
 14500
 2000
 1000

Sample #: L12020399-07 PrePrep Method: N/A Instrument: HPLC4

 Client ID:
 HTA16-0212-1
 Prep Method:
 METHOD
 Prep Date:
 02/15/2012 08:20

 Matrix:
 Water
 Analytical Method:
 8330B
 Cal Date:
 02/15/2012 19:12

 Workgroup #:
 WG389703
 Analyst:
 ECL
 Run Date:
 02/21/2012 14:25

**Collect Date:** 02/13/2012 13:05 **Dilution:** 1 **File ID:** 4L023238.F

Sample Tag: CF01 Units: ug/L

CAS# Result LOO LOD Analyte Qual HMX 2691-41-0 0.291 J 1.09 0.272 RDX 121-82-4 21.9 1.09 0.272

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SurrogateRecoveryLower LimitUpper LimitQ1,2-Dinitrobenzene93.050150

J Estimated value ; the analyte concentration was less than the LOQ.

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Surrogate

Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

### Certificate of Analysis

Sample #: L12020399-07 PrePrep Method: N/A Instrument: HPLC5

 Client ID:
 HTA16-0212-1
 Prep Method:
 METHOD
 Prep Date:
 02/15/2012 08:20

 Matrix:
 Water
 Analytical Method:
 8330B
 Cal Date:
 02/10/2011 16:32

 Workgroup #:
 WG389703
 Analyst:
 ECL
 Run Date:
 02/16/2012 19:44

**Collect Date:** 02/13/2012 13:05 **Dilution:** 1 **File ID:** 5L006489.F

Sample Tag: 01 Units: ug/L

|                            | •          |        |      |      |       |
|----------------------------|------------|--------|------|------|-------|
| Analyte                    | CAS#       | Result | Qual | LOQ  | LOD   |
| 1,3,5-Trinitrobenzene      | 99-35-4    |        | U    | 1.09 | 0.272 |
| 1,3-Dinitrobenzene         | 99-65-0    |        | U    | 1.09 | 0.272 |
| 2,4,6-Trinitrotoluene      | 118-96-7   |        | U    | 1.09 | 0.272 |
| 2,4-Dinitrotoluene         | 121-14-2   |        | U    | 1.09 | 0.272 |
| 2,6-Dinitrotoluene         | 606-20-2   |        | U    | 1.09 | 0.272 |
| 2-Amino-4,6-dinitrotoluene | 35572-78-2 |        | U    | 1.09 | 0.272 |
| 2-Nitrotoluene             | 88-72-2    |        | U    | 1.09 | 0.272 |
| 3-Nitrotoluene             | 99-08-1    |        | U    | 1.09 | 0.272 |
| 4-Nitrotoluene             | 99-99-0    |        | U    | 1.09 | 0.272 |
| 4-Amino-2,6-dinitrotoluene | 19406-51-0 |        | U    | 1.09 | 0.272 |
| HMX                        | 2691-41-0  | 0.351  | J    | 1.09 | 0.272 |
| Nitrobenzene               | 98-95-3    |        | U    | 1.09 | 0.272 |
| RDX                        | 121-82-4   | 21.8   |      | 1.09 | 0.272 |
| Tetryl                     | 479-45-8   |        | U    | 1.09 | 0.272 |
|                            |            |        |      |      |       |

| 1,2-Dinitrobenz | ene   | 88.3               | 50      | 150 |  |
|-----------------|---|--------------------|---------|-----|--|
| J               | Estimated value : the analyte concentration | on was less than t | he LOO. |     |  |

Recovery

| J | Estimated value ; the analyte concentration was less than the LOQ.     |  |
|---|--|--|
| U | Analyte was not detected. The concentration is below the reported LOD. |  |

Lower Limit Upper Limit

 Sample #:
 L12020399-07
 PrePrep Method:
 N/A
 Instrument:
 ICP-THERMO2

 Client ID:
 HTA16-0212-1
 Prep Method:
 3005A
 Prep Date:
 02/16/2012 07:08

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 02/16/2012 08:38

 Workgroup #:
 WG389817
 Analyst:
 KHR
 Run Date:
 02/16/2012 15:11

 Collect Date:
 02/13/2012 13:05
 Dilution:
 1
 File ID:
 T2.021612.151107

Sample Tag: 01 Units: mg/L

|             | · · <b>9</b> · ·-                             | g. =                 |        |      |        |         |
|-------------|---|----------------------|--------|------|--------|---------|
|             | Analyte                                       | CAS#                 | Result | Qual | LOQ    | LOD     |
| Iron, Total |   | 7439-89-6            |        | U    | 0.100  | 0.0500  |
| Manganese,  | Total   | 7439-96-5            | 0.192  |      | 0.0100 | 0.00500 |
| U           | Analyte was not detected. The concentration i | s below the reported | d LOD. |      |        |         |

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#### Certificate of Analysis

Sample #: L12020399-07 PrePrep Method: N/A Instrument: IC1 Client ID: HTA16-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Analyst: JBK Run Date: 02/15/2012 22:10 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: 110215122210.48 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Fluoride 16984-48-8 2.52 0.100 0.200

Sample #: L12020399-07 PrePrep Method: N/A Instrument: IC1 Client ID: HTA16-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Analyst: JBK Run Date: 02/16/2012 13:23 Collect Date: 02/13/2012 13:05 Dilution: 5 File ID: 110216121323.78 Sample Tag: DL01 Units: mg/L CAS# Result Qual LOQ LOD Analyte Chloride 16887-00-6 48.8 1.00 0.500 Sulfate 14808-79-8 165 5.00 2.50

Sample #: L12020399-07 PrePrep Method: N/A Instrument: ORION-4STAR Client ID: HTA16-0212-1 Prep Method: 9040C Prep Date: N/A Analytical Method: 9040C Matrix: Water Cal Date: Workgroup #: WG389585 Analyst: DLP Run Date: 02/14/2012 17:47 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: OS12021515242801 Sample Tag: Units: UNITS CAS# LOO LOD Analyte Result Qual Corrosivity pH 10-29-7 7.42 0.000 0.000

Sample #: L12020399-07 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:42 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: SC120216003.035 Sample Tag: 01 Units: mg/L CAS# LOD Analyte Result Qual LOQ Alkalinity, Carbonate (as CaCO3) U 20.0 10.0 U Analyte was not detected. The concentration is below the reported LOD.

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Lab Report #: L12020399
Lab Project #: 3005.011
Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

#### Certificate of Analysis

Sample #: L12020399-07 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:42 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: SC120216003.035 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD 221 10.0 Alkalinity, Total (as CaCO3) 20.0

Sample #: L12020399-07 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water Analytical Method: 310.2 Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:42 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: SC120216003.035 Sample Tag: 01 Units: mg/L CAS# Result Qual LOQ LOD Analyte Alkalinity, Bicarbonate (as CaCO3) 221 10.0 20.0

Sample #: L12020399-07 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA16-0212-1 Prep Method: 353.2 Prep Date: N/A Matrix: Water Analytical Method: 353.2 Cal Date: 02/14/2012 11:13 Run Date: 02/15/2012 11:13 Workgroup #: WG389640 Analyst: JBK Collect Date: 02/13/2012 13:05 Dilution: 8 File ID: SC12021615512501 Sample Tag: Units: mg/L CAS# LOD Analyte Result Qual LOQ Nitrate-Nitrite (as N) 10.1 0.400 0.200

Sample #: L12020399-08 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA16-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Analytical Method: 6010B Cal Date: 02/16/2012 08:38 Matrix: Water Workgroup #: WG389817 Analyst: KHR Run Date: 02/16/2012 15:14 Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: T2.021612.151423 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Aluminum, Dissolved 7429-90-5 U 0.0500 0.100 Beryllium, Dissolved 7440-41-7 U 0.00200 0.00100 0.100 Iron, Dissolved 7439-89-6 U 0.0500 7439-96-5 Manganese, Dissolved 0.0442 0.0100 0.00500 Potassium, Dissolved 7440-09-7 0.865 J 1.00 0.500

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 Lab Report #:
 L12020399

 Lab Project #:
 3005.011

 Project Name:
 White Sands MR

Lab Contact: Stephanie Mossburg

# Certificate of Analysis

|                 | Analyte  | CAS#      | Result | Qual | LOQ    | LOD     |  |
|-----------------|--|-----------|--------|------|--------|---------|--|
| Sodium, Dissol  | ved  | 7440-23-5 | 70.4   |      | 0.500  | 0.250   |  |
| Tin, Dissolved  |  | 7440-31-5 |        | U    | 0.500  | 0.250   |  |
| Vanadium, Diss  | solved   | 7440-62-2 |        | U    | 0.0100 | 0.00500 |  |
| Zinc, Dissolved |  | 7440-66-6 |        | U    | 0.0200 | 0.0100  |  |
| J               | Estimated value; the analyte concentration was less than the LOQ.      |           |        |      |        |         |  |
| U               | Analyte was not detected. The concentration is below the reported LOD. |           |        |      |        |         |  |

| Sample #:          | L12020399-08     | PrePrep Method:    | N/A   |                                       | Instrument: | ICP-THERMO    | )2   |  |
|--------------------|------------------|--------------------|-------|---------------------------------------|-------------|---------------|------|--|
| Client ID:         | HTA16-0212-1     | Prep Method:       | 3005A |                                       | Prep Date:  | 02/16/2012 0  | 7:08 |  |
| Matrix:            | Water            | Analytical Method: | 6010B |                                       | Cal Date:   | 02/17/2012 09 | 9:11 |  |
| Workgroup #:       | WG389817         | Analyst:           | KHR   | KHR <b>Run Date:</b> 02/17/2012 09:44 |             |               |      |  |
| Collect Date:      | 02/13/2012 13:05 | Dilution:          | 10    |                                       | File ID:    | T2.021712.09  | 4429 |  |
| Sample Tag:        | DL01             | Units:             | mg/L  |                                       |             |               |      |  |
|                    | Analyte          | CAS                | #     | Result                                | Qual        | LOQ           | LOD  |  |
| Calcium, Dissolved |                  | 7440-7             | 0-2   | 107                                   |             | 2.00          | 1.00 |  |
| Magnesium, Dissol  | ved              | 7439-9             | 5-4   | 25.4                                  |             | 5.00          | 2.50 |  |

| Sample #          | : L12020399-08               | PrePrep Method:               | N/A         |          | Instrument: | FI AN-ICP     |          |
|-------------------|------------------------------|-------------------------------|-------------|----------|-------------|---------------|----------|
| •                 | : HTA16-0212-1               | Prep Method:                  |             |          |             | 02/16/2012 10 | ···00    |
|                   |                              | •                             |             |          | •           |               |          |
| Matrix            | c: Water                     | Analytical Method:            | 6020        |          | Cal Date:   | 02/16/2012 16 | 5:04     |
| Workgroup #       | #: WG389782                  | Analyst:                      | EDL         |          | Run Date:   | 02/16/2012 21 | .:13     |
| Collect Date      | e: 02/13/2012 13:05          | Dilution:                     | 1           |          | File ID:    | EL.021612.21  | 1354     |
| Sample Tag        | <b>j:</b> 01                 | Units:                        | mg/L        |          |             |               |          |
|                   | Analyte                      | CAS                           | #           | Result   | Qual        | LOQ           | LOD      |
| Antimony, Dissolv | /ed                          | 7440-3                        | 6-0         |          | U           | 0.00100       | 0.000500 |
| Arsenic, Dissolve | d                            | 7440-3                        | 8-2 (       | 0.000551 | J           | 0.00100       | 0.000500 |
| Barium, Dissolve  | d                            | 7440-3                        | 9-3         | 0.0440   |             | 0.00300       | 0.00150  |
| Cadmium, Dissol   | ved                          | 7440-4                        | 3-9         | 0.0127   |             | 0.000600      | 0.000300 |
| Chromium, Disso   | lved                         | 7440-4                        | 7-3         | 0.00111  | J           | 0.00200       | 0.00100  |
| Cobalt, Dissolved | I                            | 7440-4                        | 8-4         | 0.00166  |             | 0.00100       | 0.000500 |
| Copper, Dissolve  | d                            | 7440-5                        | 0-8         |          | U           | 0.00200       | 0.00100  |
| Lead, Dissolved   |                              | 7439-9                        | 2-1         |          | U           | 0.00100       | 0.000500 |
| Nickel, Dissolved |                              | 7440-0                        | 2-0         | 0.00396  | J           | 0.00400       | 0.00200  |
| Selenium, Dissol  | ved                          | 7782-4                        | 9-2         | 0.00351  |             | 0.00100       | 0.000500 |
| Silver, Dissolved |                              | 7440-2                        | 2-4         |          | U           | 0.00100       | 0.000500 |
| Thallium, Dissolv | ed                           | 7440-2                        | 8-0         |          | U           | 0.000200      | 0.000100 |
| J I               | Estimated value ; the analyt | e concentration was less than | the LOQ.    |          |             |               |          |
| U                 | Analyte was not detected. T  | he concentration is below the | eported LOD |          |             |               |          |

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### Certificate of Analysis

Sample #: L12020399-08 PrePrep Method: N/A Instrument: HYDRA Client ID: HTA16-0212-1 Prep Date: 02/16/2012 07:13 Prep Method: 7470A Matrix: Water Analytical Method: 7470A Cal Date: 02/17/2012 13:00 Run Date: 02/17/2012 13:26 Workgroup #: WG389917 Analyst: PDM Collect Date: 02/13/2012 13:05 Dilution: 1 File ID: HY.021712.132651 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD 0.000200 0.000100 Mercury, Dissolved 7439-97-6 U U Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-09 PrePrep Method: N/A Instrument: LCMS1 Client ID: HTA17-0212-1 Prep Method: 6850 Prep Date: 02/23/2012 13:15 Cal Date: 01/24/2012 17:25 Matrix: Water **Analytical Method: 6850** Workgroup #: WG390462 Analyst: JWR Run Date: 02/24/2012 17:35 Collect Date: 02/13/2012 14:20 Dilution: 10000 File ID: 1LM.LM15421 Sample Tag: DL01 Units: ug/L CAS# Result Qual LOQ LOD Analyte Perchlorate 14797-73-0 15400 2000 1000

Sample #: L12020399-09 PrePrep Method: N/A Instrument: HPLC5 **Client ID:** HTA17-0212-1 Prep Method: METHOD Prep Date: 02/15/2012 08:20 Matrix: Water Analytical Method: 8330B Cal Date: 02/10/2011 16:32 Workgroup #: WG389703 Analyst: ECL Run Date: 02/16/2012 20:23 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: 5L006490.F Sample Tag: 01 Units: ug/L Analyte CAS# Result Qual LOO LOD 1,3,5-Trinitrobenzene 99-35-4 1.09 0.272 U 1,3-Dinitrobenzene 99-65-0 U 1.09 0.272 2,4,6-Trinitrotoluene 118-96-7 0.272 U 1.09 2.4-Dinitrotoluene 121-14-2 0.272 U 1.09 2,6-Dinitrotoluene 606-20-2 U 1.09 0.272 2-Amino-4,6-dinitrotoluene 35572-78-2 1.09 0.272 U 88-72-2 0.272 2-Nitrotoluene U 1.09 3-Nitrotoluene U 0.272 99-08-1 1.09 4-Nitrotoluene 99-99-0 U 1.09 0.272 4-Amino-2,6-dinitrotoluene 19406-51-0 1.09 0.272 U  $\mathsf{HMX}$ 2691-41-0 U 1.09 0.272 Nitrobenzene 98-95-3 U 1.09 0.272

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| Analyte         |  |          | CAS#         |         | Result    |      | Qual     |       | LC | Q | LOD |
|-----------------|--|----------|--------------|---------|-----------|------|----------|-------|----|---|-----|
| Tetryl          |  | 479-45-8 |              | U       |           | 1.0  | 09       | 0.272 |    |   |     |
|                 | Surrogate                                | R        | Recovery     | Lo      | wer Limit | Uppe | er Limit | Q     |    |   |     |
| 1,2-Dinitrobenz | ene                                      |          | 88.1         |         | 50        | 1    | L50      |       |    |   |     |
| U               | Analyte was not detected. The concentrat | ion is   | below the re | eported | l LOD.    |      |          |       |    |   |     |

Sample #: L12020399-09 PrePrep Method: N/A Instrument: HPLC5 Client ID: HTA17-0212-1 Prep Method: METHOD Prep Date: 02/15/2012 08:20 Matrix: Water Analytical Method: 8330B Cal Date: 02/10/2011 16:32 Workgroup #: WG389703 Analyst: ECL Run Date: 02/20/2012 17:57 Collect Date: 02/13/2012 14:20 Dilution: 5 File ID: 5L006528.F Sample Tag: DL01 Units: ug/L CAS# Result LOQ LOD Analyte Qual RDX 121-82-4 33.0 5.43 1.36 Surrogate Recovery **Lower Limit Upper Limit** Q 1,2-Dinitrobenzene 88.1 50 150

| Sample #:          | L12020399-09     | PrePre             | p Method: | N/A  |                                    | Inst         | rument:  | HPLC4        |                 |  |
|--------------------|------------------|--------------------|-----------|------|------------------------------------|--------------|----------|--------------|-----------------|--|
| Client ID:         | HTA17-0212-1     | Prep Method:       |           |      | HOD <b>Prep Date</b> : 02 <i>i</i> |              |          | 02/15/2012 0 | 2/15/2012 08:20 |  |
| Matrix:            | Water            | Analytical Method: |           |      | Cal Date: 02/                      |              |          | 02/15/2012 1 | 2/15/2012 19:12 |  |
| Workgroup #:       | WG389703         | Analyst:           |           |      |                                    | Run Date: 02 |          |              | 2/21/2012 16:11 |  |
| Collect Date:      | 02/13/2012 14:20 | Dilution: 5        |           |      |                                    |              | File ID: | 4L023240.F   |                 |  |
| Sample Tag:        | CFDL1            |                    | Units:    | ug/L |                                    |              |          |              |                 |  |
|                    | Analyte          |                    | CAS #     | #    | Resul                              | t Q          | ual      | LOQ          | LOD             |  |
| RDX                |                  |                    | 121-82    | -4   | 33.7                               |              |          | 5.43         | 1.36            |  |
|                    | Surrogate        | R                  | ecovery   | Lov  | ver Limit                          | Upper Limit  | Q        |              |                 |  |
| 1,2-Dinitrobenzene |                  |                    | 91.7      |      | 50                                 | 150          |          |              |                 |  |

| Sample #:        | L12020399-09             | PrePrep Method:                  | N/A        |        | Instrument: | ICP-THERMO   | )2      |
|------------------|--------------------------|----------------------------------|------------|--------|-------------|--------------|---------|
| Client ID:       | HTA17-0212-1             | Prep Method:                     | 3005A      |        | Prep Date:  | 02/16/2012 0 | 7:08    |
| Matrix:          | Water                    | Analytical Method:               | 6010B      |        | Cal Date:   | 02/16/2012 0 | 3:38    |
| Workgroup #:     | WG389817                 | Analyst:                         | KHR        |        | Run Date:   | 02/16/2012 1 | 5:17    |
| Collect Date:    | 02/13/2012 14:20         | Dilution:                        | 1          |        | File ID:    | T2.021612.15 | 51739   |
| Sample Tag:      | 01                       | Units:                           | mg/L       |        |             |              |         |
|                  | Analyte                  | CAS                              | #          | Result | Qual        | LOQ          | LOD     |
| Iron, Total      |                          | 7439-89                          | 9-6        |        | U           | 0.100        | 0.0500  |
| Manganese, Total |                          | 7439-9                           | 6-5        |        | U           | 0.0100       | 0.00500 |
| U Ar             | nalyte was not detected. | The concentration is below the r | eported LO | D.     |             |              |         |

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Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

### Certificate of Analysis

Sample #: L12020399-09 PrePrep Method: N/A Instrument: IC1 Client ID: HTA17-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Analyst: JBK Run Date: 02/15/2012 22:27 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: 110215122227.49 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Fluoride 16984-48-8 4.18 0.100 0.200

Sample #: L12020399-09 PrePrep Method: N/A Instrument: IC1 Client ID: HTA17-0212-1 Prep Method: 300.0 Prep Date: 02/15/2012 18:06 Matrix: Water Analytical Method: 300.0 Cal Date: 02/10/2012 10:32 Workgroup #: WG389618 Analyst: JBK Run Date: 02/16/2012 13:40 Collect Date: 02/13/2012 14:20 Dilution: 5 File ID: 110216121340.79 Sample Tag: DL01 Units: mg/L CAS# Result Qual LOQ LOD Analyte Chloride 16887-00-6 49.7 1.00 0.500 Sulfate 14808-79-8 168 5.00 2.50

Sample #: L12020399-09 PrePrep Method: N/A Instrument: ORION-4STAR Client ID: HTA17-0212-1 Prep Method: 9040C Prep Date: N/A Analytical Method: 9040C Matrix: Water Cal Date: Workgroup #: WG389585 Analyst: DLP Run Date: 02/14/2012 17:48 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: OS12021515243501 Sample Tag: Units: UNITS CAS# LOO LOD Analyte Result Qual Corrosivity pH 10-29-7 7.37 0.000 0.000

Sample #: L12020399-09 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA17-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:43 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: SC120216003.036 Sample Tag: 01 Units: mg/L CAS# LOD Analyte Result Qual LOQ Alkalinity, Carbonate (as CaCO3) U 20.0 10.0 U Analyte was not detected. The concentration is below the reported LOD.

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Alkalinity, Total (as CaCO3)

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10.0

20.0

#### Certificate of Analysis

Sample #: L12020399-09 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA17-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water **Analytical Method: 310.2** Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:43 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: SC120216003.036 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD

224

Sample #: L12020399-09 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA17-0212-1 Prep Method: 310.2 Prep Date: N/A Matrix: Water Analytical Method: 310.2 Cal Date: 02/16/2012 10:26 Workgroup #: WG389747 Analyst: DIH Run Date: 02/16/2012 10:43 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: SC120216003.036 Sample Tag: 01 Units: mg/L CAS# Result Qual LOQ LOD Analyte Alkalinity, Bicarbonate (as CaCO3) 224 10.0 20.0

Sample #: L12020399-09 PrePrep Method: N/A Instrument: SMARTCHEM Client ID: HTA17-0212-1 Prep Method: 353.2 Prep Date: N/A Matrix: Water Analytical Method: 353.2 Cal Date: 02/14/2012 11:13 Run Date: 02/15/2012 11:13 Workgroup #: WG389640 Analyst: JBK Collect Date: 02/13/2012 14:20 Dilution: 8 File ID: SC12021615513501 Sample Tag: Units: mg/L CAS# LOD Analyte Result Qual LOQ Nitrate-Nitrite (as N) 10.9 0.400 0.200

Sample #: L12020399-10 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA17-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 Analytical Method: 6010B Cal Date: 02/16/2012 08:38 Matrix: Water Workgroup #: WG389817 Analyst: KHR Run Date: 02/16/2012 15:20 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: T2.021612.152056 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Aluminum, Dissolved 7429-90-5 U 0.0500 0.100 Beryllium, Dissolved 7440-41-7 U 0.00200 0.00100 0.100 Iron, Dissolved 7439-89-6 U 0.0500 U Manganese, Dissolved 7439-96-5 0.0100 0.00500 Potassium, Dissolved 7440-09-7 1.04 1.00 0.500

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|  | Analyte | CAS#      | Result | Qual | LOQ    | LOD     |
|--|---------|-----------|--------|------|--------|---------|
| Sodium, Dissolved  |         | 7440-23-5 | 61.9   |      | 0.500  | 0.250   |
| Tin, Dissolved   |         | 7440-31-5 |        | U    | 0.500  | 0.250   |
| Vanadium, Dissolved  |         | 7440-62-2 |        | U    | 0.0100 | 0.00500 |
| Zinc, Dissolved  |         | 7440-66-6 |        | U    | 0.0200 | 0.0100  |
| U Analyte was not detected. The concentration is below the reported LOD. |         |           |        |      |        |         |

| Sample #:          | L12020399-10     | PrePrep Method:    | N/A               |                                       | Instrument: | ICP-THERMO    | )2   |
|--------------------|------------------|--------------------|-------------------|---------------------------------------|-------------|---------------|------|
| Client ID:         | HTA17-0212-1     | Prep Method:       | 3005A             |                                       | Prep Date:  | 02/16/2012 07 | 7:08 |
| Matrix:            | Water            | Analytical Method: | 6010B             |                                       | Cal Date:   | 02/17/2012 09 | 9:11 |
| Workgroup #:       | WG389817         | Analyst:           | KHR               | KHR <b>Run Date:</b> 02/17/2012 09:47 |             |               |      |
| Collect Date:      | 02/13/2012 14:20 | Dilution:          | 10                | 10 <b>File ID</b> : T2.021712.094746  |             |               |      |
| Sample Tag:        | DL01             | Units:             | mg/L              |                                       |             |               |      |
|                    | Analyte          | CAS                | #                 | Result                                | Qual        | LOQ           | LOD  |
| Calcium, Dissolved |                  | 7440-70            | 0-2 111 2.00 1.00 |                                       |             |               | 1.00 |
| Magnesium, Dissol  | ved              | 7439-99            | 5-4               | 4 27.5 5.00 2.50                      |             |               |      |

| Sample            | #: L12020399-10                                | PrePrep Method:                | N/A           | Instrument:               | ELAN-ICP      |          |  |
|-------------------|--|--------------------------------|---------------|---------------------------|---------------|----------|--|
| Client II         | <b>D:</b> HTA17-0212-1                         | Prep Method:                   | 3015          | Prep Date:                | 02/16/2012 10 | 0:00     |  |
| Matr              | ix: Water                                      | Analytical Method:             | 6020          | Cal Date:                 | 02/16/2012 16 | 5:04     |  |
| Workgroup         | #: WG389782                                    | Analyst:                       | EDL           | Run Date:                 | 02/16/2012 23 | L:52     |  |
| Collect Da        | te: 02/13/2012 14:20                           | Dilution:                      | 1             | File ID: EL.021612.215231 |               |          |  |
| Sample Ta         | ng: 01   | Units:                         | mg/L          |                           |               |          |  |
|                   | Analyte  | CAS                            | # Result      | Qual                      | LOQ           | LOD      |  |
| Antimony, Disso   | lved   | 7440-3                         | 6-0           | U                         | 0.00100       | 0.000500 |  |
| Arsenic, Dissolv  | ed   | 7440-3                         | 8-2           | U 0.00100 0.00050         |               |          |  |
| Barium, Dissolve  | ed   | 7440-3                         | 9-3 0.0349    | 0.0349 0.00300 0.00150    |               |          |  |
| Cadmium, Disso    | olved  | 7440-4                         | 3-9           | U 0.000600 0.000300       |               |          |  |
| Chromium, Diss    | olved  | 7440-4                         | 7-3           | U                         | 0.00200       | 0.00100  |  |
| Cobalt, Dissolve  | ed   | 7440-4                         | 8-4 0.00157   |                           | 0.00100       | 0.000500 |  |
| Copper, Dissolve  | ed   | 7440-5                         | 0-8           | U                         | 0.00200       | 0.00100  |  |
| Lead, Dissolved   |  | 7439-9                         | 2-1           | U                         | 0.00100       | 0.000500 |  |
| Nickel, Dissolve  | d  | 7440-0                         | 2-0 0.00370   | J                         | 0.00400       | 0.00200  |  |
| Selenium, Disso   | olved  | 7782-4                         | 9-2 0.00332   |                           | 0.00100       | 0.000500 |  |
| Silver, Dissolved | Silver, Dissolved 7440-22-4 U 0.00100 0.00     |                                |               |                           | 0.000500      |          |  |
| Thallium, Dissol  | Thallium, Dissolved 7440-28-0 U 0.000200 0.000 |                                |               |                           | 0.000100      |          |  |
| J                 | Estimated value ; the analy                    | te concentration was less than | the LOQ.      |                           |               |          |  |
| U                 | Analyte was not detected.                      | The concentration is below the | reported LOD. |                           |               |          |  |

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Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

### Certificate of Analysis

Sample #: L12020399-10 PrePrep Method: N/A Instrument: HYDRA Client ID: HTA17-0212-1 Prep Method: 7470A Prep Date: 02/16/2012 07:13 Matrix: Water Analytical Method: 7470A Cal Date: 02/17/2012 13:00 Workgroup #: WG389917 Analyst: PDM Run Date: 02/17/2012 13:28 Collect Date: 02/13/2012 14:20 Dilution: 1 File ID: HY.021712.132844 Sample Tag: 01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Mercury, Dissolved 7439-97-6 0.000200 0.000100 Analyte was not detected. The concentration is below the reported LOD.

Sample #: L12020399-11 PrePrep Method: N/A Instrument: LCMS1 Client ID: HTA15-0212-1 Prep Method: 6850 Prep Date: 02/23/2012 13:15 Matrix: Water **Analytical Method: 6850** Cal Date: 01/24/2012 17:25 Workgroup #: WG390462 Run Date: 02/24/2012 17:54 Analyst: JWR Collect Date: 02/13/2012 15:35 Dilution: 10000 File ID: 1LM.LM15422 Sample Tag: DL01 Units: ug/L Result LOD Analyte CAS# Qual LOQ Perchlorate 14797-73-0 16800 2000 1000

Sample #: L12020399-11 PrePrep Method: N/A Instrument: HPLC4 Client ID: HTA15-0212-1 Prep Method: METHOD Prep Date: 02/15/2012 08:20 Matrix: Water Analytical Method: 8330B Cal Date: 02/15/2012 19:12 Workgroup #: WG389703 Analyst: ECL Run Date: 02/21/2012 17:04 Collect Date: 02/13/2012 15:35 Dilution: 1 File ID: 4L023241.F Sample Tag: CF1 Units: ug/L Analyte CAS# Result LOO LOD Qual RDX 121-82-4 19.9 1.08 0.269 Surrogate Recovery **Lower Limit Upper Limit** Q 1,2-Dinitrobenzene 94.3 50 150

| Sample #:                                 | L12020399-11     | PrePrep Method:    | d: N/A Instrument: HPLC5       |            |               |      |  |
|---|------------------|--------------------|--------------------------------|------------|---------------|------|--|
| Client ID:                                | HTA15-0212-1     | Prep Method:       | METHOD                         | Prep Date: | 02/15/2012 08 | 3:20 |  |
| Matrix:                                   | Water            | Analytical Method: | 8330B                          | Cal Date:  | 02/10/2011 16 | 5:32 |  |
| Workgroup #:                              | WG389703         | Analyst:           | ECL Run Date: 02/16/2012 21:02 |            |               |      |  |
| Collect Date:                             | 02/13/2012 15:35 | Dilution:          | 1 File ID: 5L006491.F          |            |               |      |  |
| Sample Tag:                               | 01               | Units:             | ug/L                           |            |               |      |  |
|   | Analyte          | CAS                | # Res                          | ult Qual   | LOQ           | LOD  |  |
| 1,3,5-Trinitrobenzene 99-35-4 U 1.08 0.26 |                  |                    |                                | 0.269      |               |      |  |
| 1,3-Dinitrobenzene                        |                  | 99-65-             | U 1.08 0.269                   |            |               |      |  |

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Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

# Certificate of Analysis

| Analyte                    | CAS #    | Resi        | ult Qu      | al | LOQ  | LOD   |
|----------------------------|----------|-------------|-------------|----|------|-------|
| 2,4,6-Trinitrotoluene      | 118-96-  | -7          | L           | 1  | 1.08 | 0.269 |
| 2,4-Dinitrotoluene         | 121-14   | -2          | L           | 1  | 1.08 | 0.269 |
| 2,6-Dinitrotoluene         | 606-20-  | -2          | L           | ı  | 1.08 | 0.269 |
| 2-Amino-4,6-dinitrotoluene | 35572-7  | 3-2         | L           | ı  | 1.08 | 0.269 |
| 2-Nitrotoluene             | 88-72-   | 2           | L           | ı  | 1.08 | 0.269 |
| 3-Nitrotoluene             | 99-08-   | 1           | L           | ı  | 1.08 | 0.269 |
| 4-Nitrotoluene             | 99-99-   | 0           | L           | ı  | 1.08 | 0.269 |
| 4-Amino-2,6-dinitrotoluene | 19406-5  | 1-0         | L           | ı  | 1.08 | 0.269 |
| HMX                        | 2691-41  | 0           | L           | ı  | 1.08 | 0.269 |
| Nitrobenzene               | 98-95-   | 3           | L           | ı  | 1.08 | 0.269 |
| RDX                        | 121-82   | -4 19.      | 5           |    | 1.08 | 0.269 |
| Tetryl                     | 479-45   | -8          | L           | ı  | 1.08 | 0.269 |
| Surrogate                  | Recovery | Lower Limit | Upper Limit | Q  |      |       |
| 1,2-Dinitrobenzene         | 89.0     | 50          | 150         |    |      |       |

| Sample #:        | L12020399-11             | PrePrep Method:                  | N/A                                |                                       | Instrument: | ICP-THERMO    | 2      |  |
|------------------|--------------------------|----------------------------------|------------------------------------|---------------------------------------|-------------|---------------|--------|--|
| Client ID:       | HTA15-0212-1             | Prep Method:                     | 3005A                              |                                       | Prep Date:  | 02/16/2012 07 | 7:08   |  |
| Matrix           | : Water                  | Analytical Method:               | 6010B                              |                                       | Cal Date:   | 02/16/2012 08 | 3:38   |  |
| Workgroup #      | : WG389817               | Analyst:                         | KHR                                | KHR <b>Run Date:</b> 02/16/2012 15:24 |             |               |        |  |
| Collect Date     | : 02/13/2012 15:35       | Dilution:                        | 1 <b>File ID:</b> T2.021612.152413 |                                       |             |               |        |  |
| Sample Tag       | : 01                     | Units:                           | mg/L                               |                                       |             |               |        |  |
|                  | Analyte                  | CAS                              | #                                  | Result                                | Qual        | LOQ           | LOD    |  |
| Iron, Total      |                          | 7439-8                           | 9-6                                |                                       | U           | 0.100         | 0.0500 |  |
| Manganese, Total | 7439-9                   | 6-5                              |                                    | U                                     | 0.0100      | 0.00500       |        |  |
| U A              | analyte was not detected | The concentration is below the r | eported LO                         | D.                                    |             |               |        |  |

Analyte was not detected. The concentration is below the reported LOD.

| Sample #:     | L12020399-11     | PrePrep Method:    | N/A   |                            | Instrument: | IC1           |       |  |
|---------------|------------------|--------------------|-------|----------------------------|-------------|---------------|-------|--|
| Client ID:    | HTA15-0212-1     | Prep Method:       | 300.0 |                            | Prep Date:  | 02/15/2012 18 | 3:06  |  |
| Matrix:       | Water            | Analytical Method: | 300.0 |                            | Cal Date:   | 02/10/2012 10 | ):32  |  |
| Workgroup #:  | WG389618         | Analyst:           | JBK   | Run Date: 02/15/2012 23:37 |             |               |       |  |
| Collect Date: | 02/13/2012 15:35 | Dilution:          | 1     | File ID: 110215122337.53   |             |               |       |  |
| Sample Tag:   | 01               | Units:             | mg/L  |                            |             |               |       |  |
|               | Analyte          | CAS                | #     | Result                     | Qual        | LOQ           | LOD   |  |
| Fluoride      |                  | 16984-4            | 8-8   | 4.60                       |             | 0.200         | 0.100 |  |

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Chloride

Sulfate

Lab Report #: L12020399
Lab Project #: 3005.011
Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

1.00

5.00

0.500

2.50

### Certificate of Analysis

Sample #: L12020399-11 PrePrep Method: N/A Instrument: IC1 Client ID: HTA15-0212-1 Prep Method: 300.0 **Prep Date:** 02/15/2012 18:06 **Analytical Method: 300.0** Cal Date: 02/10/2012 10:32 Matrix: Water Workgroup #: WG389618 Analyst: JBK Run Date: 02/16/2012 13:58 Collect Date: 02/13/2012 15:35 Dilution: 5 File ID: 110216121358.80 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD

16887-00-6

14808-79-8

49.7

168

| Sample #:      | L12020399-11     | PrePrep Method:    | N/A   |                                   | Instrument: | ORION-4STA  | R      |
|----------------|------------------|--------------------|-------|-----------------------------------|-------------|-------------|--------|
| Client ID:     | HTA15-0212-1     | Prep Method:       | 9040C | C Prep Date: N/A                  |             |             |        |
| Matrix:        | Water            | Analytical Method: | 9040C |                                   | Cal Date:   |             |        |
| Workgroup #:   | WG389585         | Analyst:           | DLP   | <b>Run Date:</b> 02/14/2012 17:49 |             |             |        |
| Collect Date:  | 02/13/2012 15:35 | Dilution:          | 1     |                                   | File ID:    | OS120215152 | 244401 |
| Sample Tag:    |                  | Units:             | UNITS |                                   |             |             |        |
|                | Analyte          | CAS                | #     | Result                            | Qual        | LOQ         | LOD    |
| Corrosivity pH |                  | 10-29-             | 7     | 7.35 0.000 0.000                  |             |             |        |

| Sample #:             | L12020399-11     | PrePrep Method:    | N/A   |                                      | Instrument: | SMARTCHEM | 1    |
|-----------------------|------------------|--------------------|-------|--------------------------------------|-------------|-----------|------|
| Client ID:            | HTA15-0212-1     | Prep Method:       | 310.2 |                                      | Prep Date:  | N/A       |      |
| Matrix:               | Water            | Analytical Method: | 310.2 | .2 <b>Cal Date:</b> 02/16/2012 10:26 |             |           |      |
| Workgroup #:          | WG389747         | Analyst:           | DIH   | Run Date: 02/16/2012 10:43           |             |           |      |
| Collect Date:         | 02/13/2012 15:35 | Dilution:          | 1     | File ID: SC120216003.037             |             |           |      |
| Sample Tag:           | 01               | Units:             | mg/L  |                                      |             |           |      |
|                       | Analyte          | CAS                | #     | Result                               | Qual        | LOQ       | LOD  |
| Alkalinity, Bicarbona | ate (as CaCO3)   |                    |       | 220                                  |             | 20.0      | 10.0 |

| Sample #                         | : L12020399-11   | PrePrep Method:    | N/A   | Instrument: SMARTCHEM      |      |      |      |  |
|----------------------------------|--|--------------------|-------|----------------------------|------|------|------|--|
| Client ID                        | : HTA15-0212-1   | Prep Method:       | 310.2 | Prep Date: N/A             |      |      |      |  |
| Matrix                           | x: Water   | Analytical Method: | 310.2 | Cal Date: 02/16/2012 10:26 |      |      |      |  |
| Workgroup #                      | #: WG389747  | Analyst:           | DIH   | Run Date: 02/16/2012 10:43 |      |      |      |  |
| Collect Date                     | e: 02/13/2012 15:35  | Dilution:          | 1     | File ID: SC120216003.037   |      |      |      |  |
| Sample Tag                       | g: 01  | Units:             | mg/L  |                            |      |      |      |  |
|                                  | Analyte  | CAS                | #     | Result                     | Qual | LOQ  | LOD  |  |
| Alkalinity, Carbonate (as CaCO3) |  |                    |       |                            | U    | 20.0 | 10.0 |  |
| U                                | Analyte was not detected. The concentration is below the reported LOD. |                    |       |                            |      |      |      |  |

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Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

### Certificate of Analysis

Sample #: L12020399-11 PrePrep Method: N/A Instrument: SMARTCHEM

 Client ID:
 HTA15-0212-1
 Prep Method:
 310.2
 Prep Date:
 N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 02/16/2012 10:26

 Workgroup #:
 WG389747
 Analyst:
 DIH
 Run Date:
 02/16/2012 10:43

Sample Tag: 01 Units: mg/L

Analyte CAS # Result Qual LOQ LOD
Alkalinity, Total (as CaCO3) 20.0 10.0

Sample #: L12020399-11 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: HTA15-0212-1 Prep Method: 353.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 353.2
 Cal Date:
 02/14/2012 11:13

 Workgroup #:
 WG389640
 Analyst:
 JBK
 Run Date:
 02/15/2012 11:13

 Collect Date:
 02/13/2012 15:35
 Dilution:
 8
 File ID:
 SC12021615514301

Sample Tag: Units: mg/L

 Analyte
 CAS #
 Result
 Qual
 LOQ
 LOD

 Nitrate-Nitrite (as N)
 11.7
 0.400
 0.200

 Sample #:
 L12020399-12
 PrePrep Method:
 N/A
 Instrument:
 ICP-THERMO2

 Client ID:
 HTA15-0212-1
 Prep Method:
 3005A
 Prep Date:
 02/16/2012 07:08

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 02/16/2012 08:38

 Workgroup #:
 WG389817
 Analyst:
 KHR
 Run Date:
 02/16/2012 15:27

 Collect Date:
 02/13/2012 15:35
 Dilution:
 1
 File ID:
 T2.021612.152731

| <b>Concot Dato:</b> 02/10/2012 10:00 | Dilation 1                        |        | 1110 121 12:021012:102101 |         | 2.01    |
|--------------------------------------|-----------------------------------|--------|---------------------------|---------|---------|
| Sample Tag: 01                       | Units: mg/L                       |        |                           |         |         |
| Analyte                              | CAS#                              | Result | Qual                      | LOQ     | LOD     |
| Aluminum, Dissolved                  | 7429-90-5                         |        | U                         | 0.100   | 0.0500  |
| Beryllium, Dissolved                 | 7440-41-7                         |        | U                         | 0.00200 | 0.00100 |
| Iron, Dissolved                      | 7439-89-6                         |        | U                         | 0.100   | 0.0500  |
| Manganese, Dissolved                 | 7439-96-5                         |        | U                         | 0.0100  | 0.00500 |
| Potassium, Dissolved                 | 7440-09-7                         | 1.23   |                           | 1.00    | 0.500   |
| Sodium, Dissolved                    | 7440-23-5                         | 63.1   |                           | 0.500   | 0.250   |
| Tin, Dissolved                       | 7440-31-5                         |        | U                         | 0.500   | 0.250   |
| Vanadium, Dissolved                  | 7440-62-2                         |        | U                         | 0.0100  | 0.00500 |
| Zinc, Dissolved                      | 7440-66-6                         |        | U                         | 0.0200  | 0.0100  |
| U Analyte was not detected. The cor  | ncentration is below the reported | LOD.   |                           |         |         |

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Magnesium, Dissolved

Lab Report #: L12020399

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

5.00

2.50

### Certificate of Analysis

Sample #: L12020399-12 PrePrep Method: N/A Instrument: ICP-THERMO2 Client ID: HTA15-0212-1 Prep Method: 3005A Prep Date: 02/16/2012 07:08 **Analytical Method: 6010B** Cal Date: 02/17/2012 09:11 Matrix: Water Workgroup #: WG389817 Analyst: KHR Run Date: 02/17/2012 09:51 Collect Date: 02/13/2012 15:35 Dilution: 10 File ID: T2.021712.095105 Sample Tag: DL01 Units: mg/L Analyte CAS# Result Qual LOQ LOD Calcium, Dissolved 7440-70-2 115 2.00 1.00

7439-95-4

27.8

| Sample :          | #: L12020399-12               | PrePrep Method: N/A                   |                           | Instrument: | ELAN-ICP      |          |  |  |
|-------------------|-------------------------------|---------------------------------------|---------------------------|-------------|---------------|----------|--|--|
| Client II         | <b>D:</b> HTA15-0212-1        | Prep Method: 3015                     |                           | Prep Date:  | 02/16/2012 10 | :00      |  |  |
| Matr              | ix: Water                     | Analytical Method: 6020               |                           | Cal Date:   | 02/16/2012 16 | :04      |  |  |
| Workgroup         | #: WG389782                   | Analyst: EDL                          |                           | Run Date:   | 02/16/2012 22 | :00      |  |  |
| Collect Dat       | te: 02/13/2012 15:35          | Dilution: 1                           | File ID: EL.021612.220020 |             |               |          |  |  |
| Sample Ta         | ag: 01                        | Units: mg/L                           | Units: mg/L               |             |               |          |  |  |
|                   | Analyte                       | CAS#                                  | Result                    | Qual        | LOQ           | LOD      |  |  |
| Antimony, Disso   | lved                          | 7440-36-0                             |                           | U           | 0.00100       | 0.000500 |  |  |
| Arsenic, Dissolv  | red                           | 7440-38-2                             | U 0.00100 0.0009          |             |               |          |  |  |
| Barium, Dissolve  | ed                            | 7440-39-3                             | 0.0327 0.00300 0.00150    |             |               |          |  |  |
| Cadmium, Disso    | olved                         | 7440-43-9                             | U 0.000600 0.000300       |             |               |          |  |  |
| Chromium, Diss    | olved                         | 7440-47-3                             |                           | U           | 0.00200       | 0.00100  |  |  |
| Cobalt, Dissolve  | ed                            | 7440-48-4                             | 0.00195                   |             | 0.00100       | 0.000500 |  |  |
| Copper, Dissolve  | ed                            | 7440-50-8                             | 0.00162                   | J           | 0.00200       | 0.00100  |  |  |
| ead, Dissolved.   |                               | 7439-92-1                             |                           | U           | 0.00100       | 0.000500 |  |  |
| lickel, Dissolve  | d                             | 7440-02-0                             | 0.00392                   | J           | 0.00400       | 0.00200  |  |  |
| Selenium, Disso   | olved                         | 7782-49-2                             | 0.00255 0.00100 0.0005    |             |               | 0.000500 |  |  |
| Silver, Dissolved | d                             | 7440-22-4                             | U 0.00100 0.00050         |             |               | 0.000500 |  |  |
| hallium, Dissol   | ved                           | 7440-28-0                             | 0 U 0.000200 0.00010      |             |               | 0.000100 |  |  |
|                   | Estimated value ; the analyte | concentration was less than the LOC   | less than the LOQ.        |             |               |          |  |  |
| J                 | Analyte was not detected. The | e concentration is below the reported | LOD.                      |             |               |          |  |  |

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Lab Report #: L12020399
Lab Project #: 3005.011
Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

## Certificate of Analysis

Sample #: L12020399-12 PrePrep Method: N/A Instrument: HYDRA

 Client ID:
 HTA15-0212-1
 Prep Method:
 7470A
 Prep Date:
 02/16/2012 07:13

 Matrix:
 Water
 Analytical Method:
 7470A
 Cal Date:
 02/17/2012 13:00

 Workgroup #:
 WG389917
 Analyst:
 PDM
 Run Date:
 02/17/2012 13:30

Sample Tag: 01 Units: mg/L

|                    | Analyte  |                    | Result | Qual | LOQ      | LOD      |
|--------------------|--|--------------------|--------|------|----------|----------|
| Mercury, Dissolved |  | 7439-97-6          |        | U    | 0.000200 | 0.000100 |
| U                  | Analyte was not detected. The concentration is | below the reported | l LOD. |      |          |          |

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L12020399 / Revision: / 61 total pages Generated: 03/05/2012 14:01

## Microbac Laboratories Inc. Ohio Valley Division Analyst List March 5, 2012

# Microbac Laboratories Inc. List of Valid Qualifiers March 05, 2012

Qualkey: DOD

| Qualifier      | Description   |
|----------------|---|
| *              |   |
| •              | Surrogate or spike compound out of range  |
| +              | Correlation coefficient for the MSA is less than 0.995  |
| <              | Result is less than the associated numerical value.   |
| >              | Result is greater than the associated numerical value.  |
| A<br>B         | See the report narrative  |
| B1             | The reported result is associated with a contaminated method blank.  Target analyte detected in method blank at or above the method reporting limit                 |
| B3             | Target analyte detected in method blank at or above the method reporting limit  Target analyte detected in calibration blank at or above the method reporting limit |
| B4             | The BOD unseeded dilution water blank exceeded 0.2 mg/L   |
| C              | Confirmed by GC/MS  |
| CG             | Confluent growth  |
| DL             | Surrogate or spike compound was diluted out   |
| E              | Estimated concentration due to sample matrix interference   |
| EDL            | Elevated sample reporting limits, presence of non-target analytes   |
| EMPC           | Estimated Maximum Possible Concentration  |
| F, S           | Estimated result below quantitation limit; method of standard additions(MSA)  |
| FL             | Free Liquid   |
| H1             | Sample analysis performed past holding time.  |
| 1              | Semiquantitative result (out of instrument calibration range)   |
| J              | Estimated concentration; sample matrix interference.  |
| J              | Estimated value; the analyte concentration was greater than the highest standard  |
| J              | Estimated value; the analyte concentration was less than the LOQ.   |
| J              | The reported result is an estimated value.  |
| J,B            | Analyte detected in both the method blank and sample above the MDL.   |
| J,P            | Estimate; columns don't agree to within 40%   |
| J,S            | Estimated concentration; analyzed by method of standard addition (MSA)  |
| L              | Sample reporting limits elevated due to matrix interference   |
| L1             | The associated blank spike (LCS) recovery was above the laboratory acceptance limits.   |
| L2             | The associated blank spike (LCS) recovery was below the laboratory acceptance limits.   |
| M              | Matrix effect; the concentration is an estimate due to matrix effect.   |
| N              | Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS   |
| NA             | Not applicable  |
| ND I           | Not detected at or above the reporting limit (RL).  |
| ND, L<br>ND, S | Not detected; sample reporting limit (RL) elevated due to interference<br>Not detected; analyzed by method of standard addition (MSA)                               |
| ND, S<br>NF    | Not found by library search   |
| NFL            | No free liquid  |
| NI             | Non-ignitable   |
| NR             | Analyte is not required to be analyzed  |
| NS             | Not spiked  |
| P              | Concentrations >40% difference between the two GC columns   |
| Q              | One or more quality control criteria failed. See narrative.   |
| QNS            | Quantity of sample not sufficient to perform analysis   |
| RA             | Reanalysis confirms reported results  |
| RE             | Reanalysis confirms sample matrix interference  |
| S              | Analyzed by method of standard addition (MSA)   |
| SMI            | Sample matrix interference on surrogate   |
| SP             | Reported results are for spike compounds only   |
| TIC            | Library Search Compound   |
| TNTC           | Too numerous to count   |
| U              | Analyte was not detected. The concentration is below the reported LOD.  |
| UJ             | Undetected; the analyte was analyzed for, but not detected.   |
| UQ             | Undetected; the analyte was analyzed for, but not detected.   |
| W              | Post-digestion spike for furnace AA out of control limits   |
| X              | Exceeds regulatory limit  |
| X, S<br>Z      | Exceeds regulatory limit; method of standard additions (MSA)  Cannot be resolved from isomer - see below  |
| ۷              | Carrior no resolved from isother - see nerow  |

<sup>\*\*\*</sup>Special Notes for Organic Analytes



## Microbac Laboratories Inc. List of Valid Qualifiers March 05, 2012

| Qualkey: | DOD |  |
|----------|-----|--|
|          |     |  |

- Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
   1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
- 3. N-nitrosodiphenylamine cannot be separated from diphenylamine.

- 3. Methylphenol and 4-Methylphenol are unresolvable compounds.
   5. m-Xylene and p-Xylene are unresolvable compounds.
   6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.

Microbac

| Phone: 740-373-4071<br>Fax: 740-373-4835 | Program  CWA  CWA  DOD  AFCEE   | TOTAL # (LAB US   |   |   |   | Date Time Received by: (Signature)  | Pageof  |
|--|---|---|---|---|---|---|---|
| Microbac chain-of-custody record         | <b>89</b> 20<br>VIAINERS  | HOID HOID   |   | > 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3       |   | Microbac OVD  Received: 02/14/2012 12:27  By BOB BUCHANAN 221000022374  The Markonn   |   |
| 28496<br>158 Starlite Drive              | 子ix /5 HAW Contact Phone #: - 262 ements: Location: W5MR  | Signature: | X 2-13-12 11<br>X 2-13-12 11<br>1 X 2-13-12     | X 2-13-12<br>X 2-13-12                        |   | Date Time Rec By A-13-12 (700 By Date Time By By Date Time By By Date Time By By Date Time By | "Water (W), Soil (S), Solid Waste (SD), Unknown (X) |
| COC No. A 28496                          | Company Name: Zik Project Contact:  MKK Lysn Turn Around Requirements:  Vormal Project ID: LTA DR | Sampler (print):  Sample Sample I.D. No.  | HTA 19-0212-1<br>HTA 19-0212-2<br>HTA 16D-0212- | HTA 16 -0212-<br>HTA 17-0212-<br>HTA 15-0212- | 1 | Relinquished by: (Signature)  | *Water (W), Soil (S)                                |

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Internal Chain of Custody Report

**Login:** L12020399

Account: 3005
Project: 3005.011
Samples: 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-01</u> 937592 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:48 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-01** 937593

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

L12020399-01 937594 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

 Samplenum
 Container ID
 Products

 L12020399-01
 937595
 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-01</u> 937596 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Hq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:56 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-01
 937597
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

 Samplenum
 Container ID
 Products

 L12020399-01
 937598
 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-02** 937599 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рH |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-03</u> 937600 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:48 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-03** 937601

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

L12020399-03 937602 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-03</u> 937603 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 15-FEB-2012 08:10 | JKS    | DLP        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

 Samplenum
 Container ID
 Products

 L12020399-03
 937604
 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:57 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-03
 937605
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-03</u> 937606 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-04** 937607 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

Account: 3005 Project: 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-05</u> 937608 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:46 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-05** 937609

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

**L12020399-05** 937610 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-05</u> 937611 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 15-FEB-2012 08:10 | JKS    | DLP        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-05</u> 937612 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | На |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:57 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-05
 937613
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-05</u> 937614 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-06** 937615 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

Account: 3005
Project: 3005.011
Samples: 12

bampies. 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-07</u> 937616 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | Нд |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:48 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-07** 937617

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

L12020399-07 937618 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-07</u> 937619 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 15-FEB-2012 08:10 | JKS    | DLP        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

Account: 3005 Project: 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

 Samplenum
 Container ID
 Products

 L12020399-07
 937620
 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:57 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-07
 937621
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

 Samplenum
 Container ID
 Products

 L12020399-07
 937622
 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-08** 937623 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-09</u> 937624 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:48 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-09** 937625

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

**L12020399-09** 937626 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

 Samplenum
 Container ID
 Products

 L12020399-09
 937627
 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 15-FEB-2012 08:10 | JKS    | DLP        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

 Samplenum
 Container ID
 Products

 L12020399-09
 937628
 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:56 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-09
 937629
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

 Samplenum
 Container ID
 Products

 L12020399-09
 937630
 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-10** 937631 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

**Account:** 3005 **Project:** 3005.011

Samples: 12

**Due Date:** 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-11</u> 937632 300 8330

Bottle: 1

| Seq. | Purpose | From   | То   | Date/Time         | Accept | Relinquish | На |
|------|---------|--------|------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1   | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | EXT  | 15-FEB-2012 09:52 | RAH    | RLK        |    |
| 3    | DISP    | EXT    | DISP | 16-FEB-2012 08:47 | RLB    | RLB        |    |
| 4    | ANALYZ* | EXT    | SEMI | 22-FEB-2012 18:09 | JWR    | RAH        |    |

### \*Sample extract/digestate/leachate

Bottle: 2

| Seq. | Purpose | From   | То | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1 | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | STORE   | W1     | A1 | 28-FEB-2012 12:27 | BLG    | BLG        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-11** 937633

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 15-FEB-2012 14:12 | JBK    | RLK        |    |
| 3    | STORE   | SEM    | A1  | 29-FEB-2012 11:12 | RLK    | JBK        |    |

Samplenum Container ID Products

L12020399-11 937634 ALK ALK-B ALK-C

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 16-FEB-2012 08:01 | DIH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 17-FEB-2012 07:09 | AZH    | DIH        |    |

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-11</u> 937635 COR-PH

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 14-FEB-2012 16:14 | JDH    | RLK        |    |
| 3    | STORE   | WET    | A1  | 15-FEB-2012 08:10 | JKS    | DLP        |    |

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login



Internal Chain of Custody Report

**Login:** L12020399

Account: 3005 Project: 3005.011

Samples: 12

Due Date: 24-FEB-2012

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L12020399-11</u> 937636 6850

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | SEM | 23-FEB-2012 08:57 | JWR    | JKS        |    |
| 3    | STORE   | SEM    | A1  | 28-FEB-2012 10:06 | RLK    | JWR        |    |

 Samplenum
 Container ID
 Products

 L12020399-11
 937637
 NO3NO2

Bottle: 1

| Seq. | Purpose | From   | То  | Date/Time         | Accept | Relinquish | Нq |
|------|---------|--------|-----|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1  | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | ANALYZ  | W1     | WET | 15-FEB-2012 09:51 | JBK    | RLK        |    |

 Samplenum
 Container ID
 Products

 L12020399-11
 937638
 FE MN

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | рН |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            | <2 |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | ANALYZ* | DIG    | METALS | 16-FEB-2012 13:21 | KHR    | REK        |    |
| 4    | STORE   | DIG    | A1     | 16-FEB-2012 14:34 | RLK    | ERP        |    |

<sup>\*</sup>Sample extract/digestate/leachate

Samplenum Container ID Products

**L12020399-12** 937639 AG-MSD AL-D AS-MSD BA-MS-D BE-AX-D CA-D CD-MS-

Bottle: 1

| Seq. | Purpose | From   | То     | Date/Time         | Accept | Relinquish | На |
|------|---------|--------|--------|-------------------|--------|------------|----|
| 1    | LOGIN   | COOLER | W1     | 14-FEB-2012 15:05 | RLK    |            |    |
| 2    | PREP    | W1     | DIG    | 15-FEB-2012 05:32 | REK    | AZH        |    |
| 3    | STORE   | DIG    | A1     | 15-FEB-2012 14:46 | RLK    | ERP        |    |
| 4    | ANALYZ* | DIG    | METALS | 16-FEB-2012 11:37 | EDL    | REK        |    |

<sup>\*</sup>Sample extract/digestate/leachate

A1 - Sample Archive (COLD) A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

